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Vol. 67
No. 4

ESTABLISHED 1882

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Salient Features of the National Foreign Trade Council's Convention.

The Geological Mystery of the Culebra Cut Slides.

Effect of the European War Upon the Phosphate Mining Industry.

Southern Packing-Houses as an Influence for Diversification in Agriculture.

"Building Now" and Revival of Industrial Activities.

BALTIMORE, JANUARY 28, 1915

Classified Index, Pages 88 to 93. Alphabetical Index, Page 94. Classified Opportunities, Pages 60 and 61.

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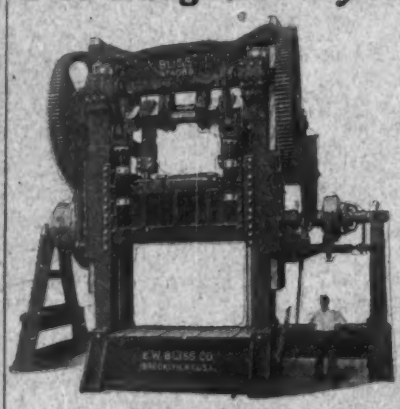
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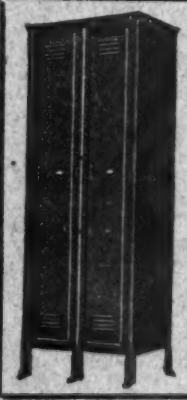
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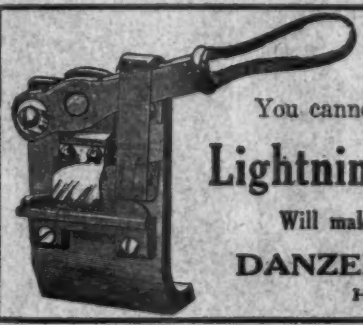
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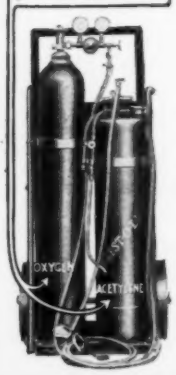
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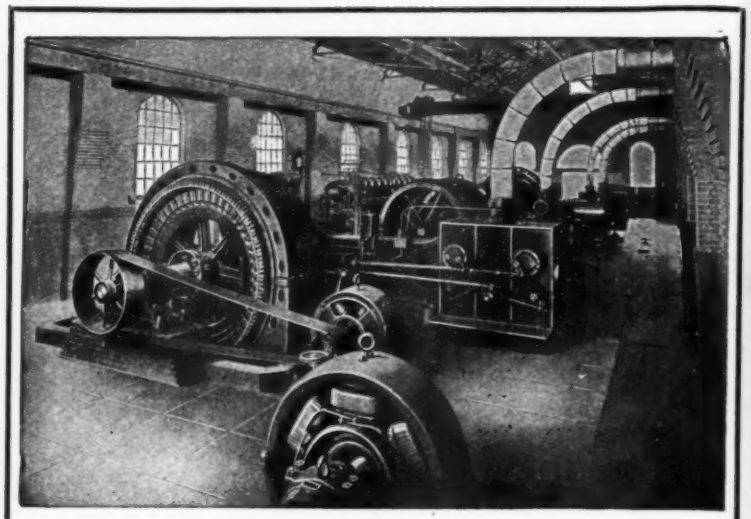
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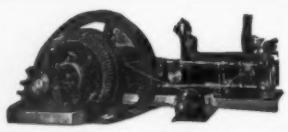
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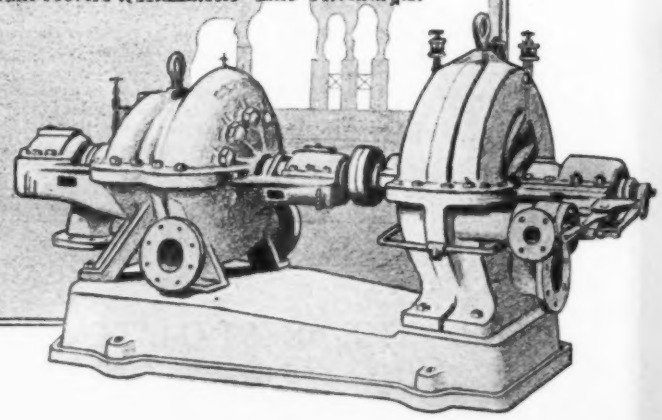
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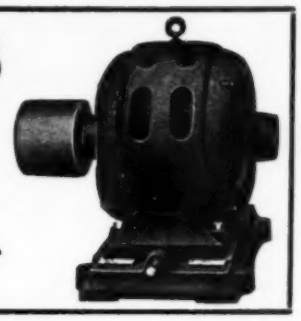
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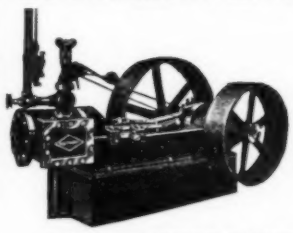
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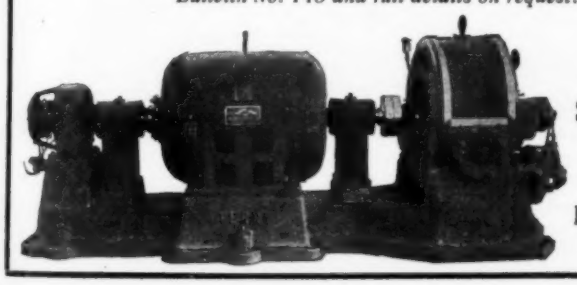
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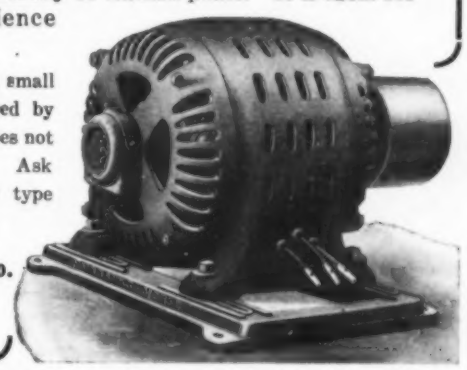
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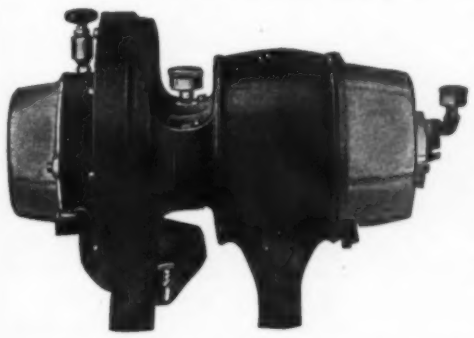
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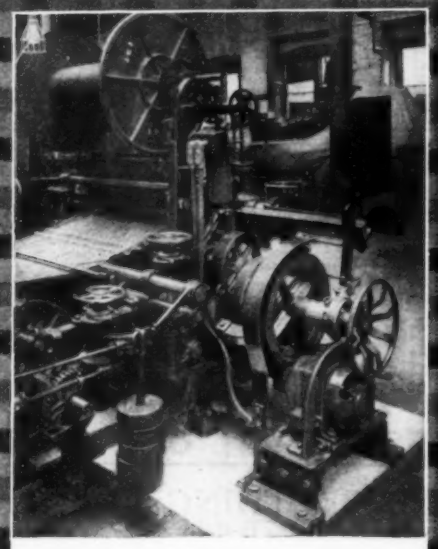
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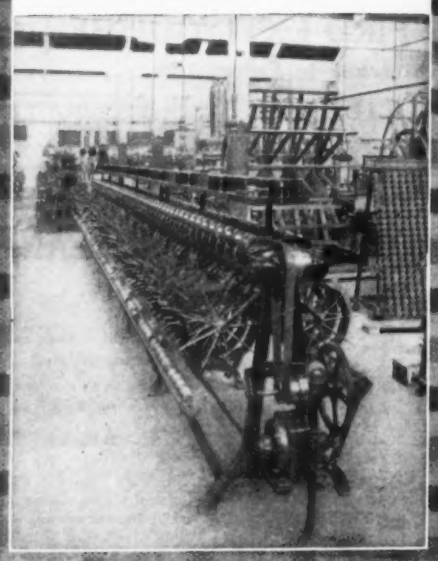
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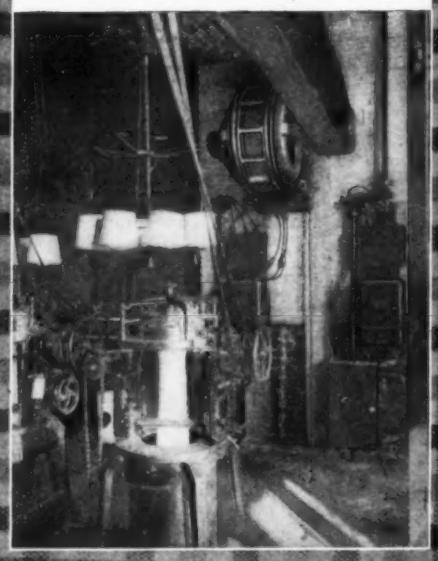
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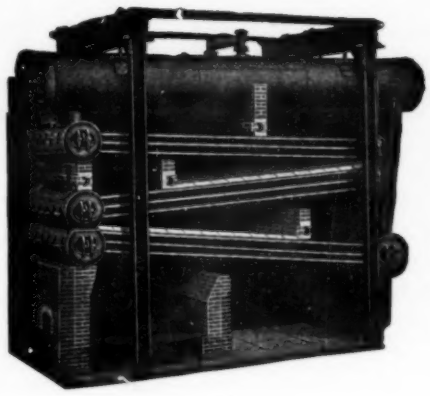
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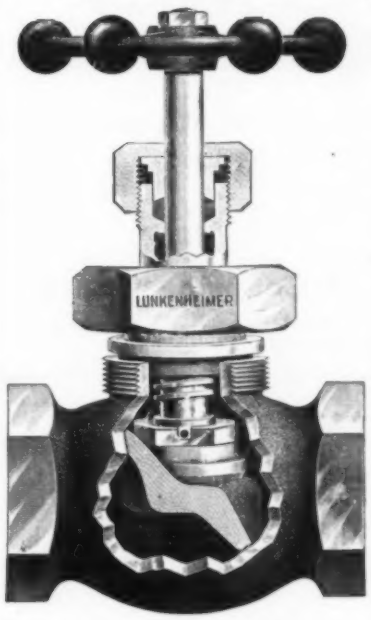
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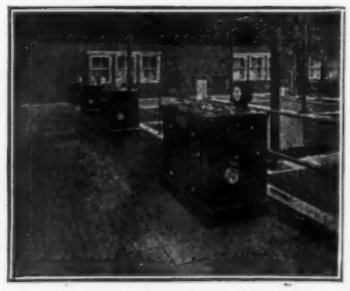
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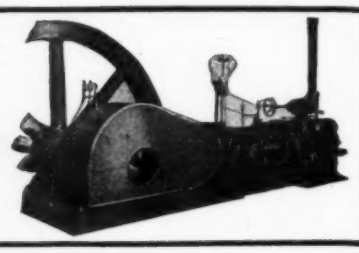
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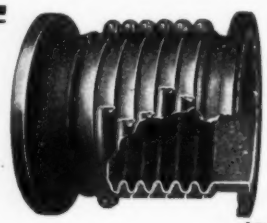
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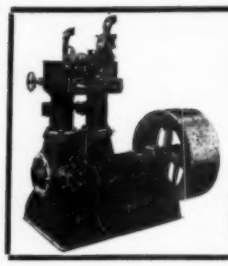
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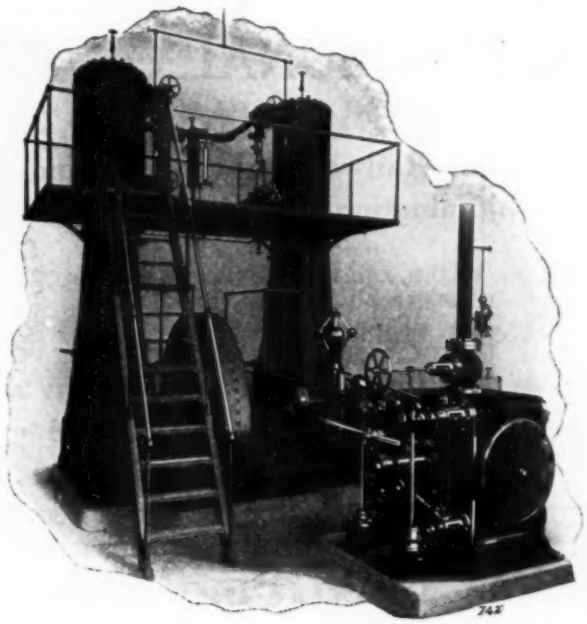
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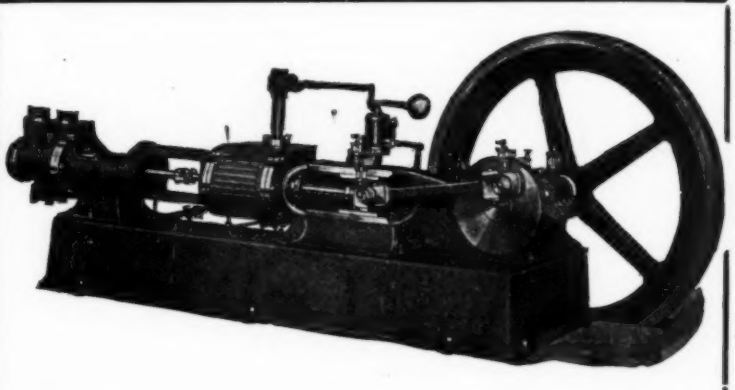
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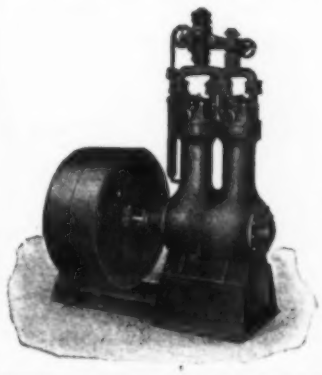
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Also Portable Cooling Rooms, Special Refrigerating Boxes and Cold Store Doors.

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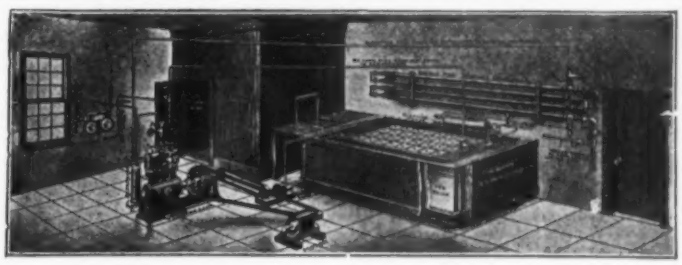
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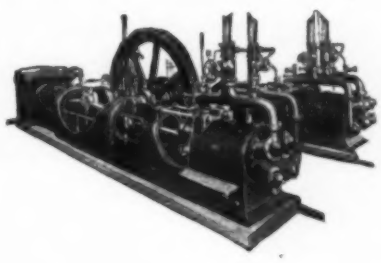
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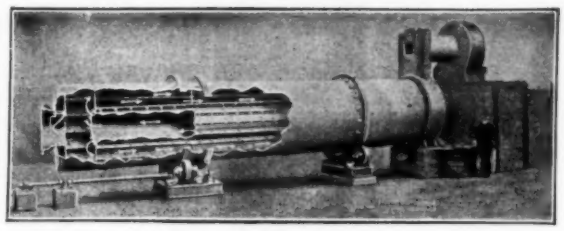
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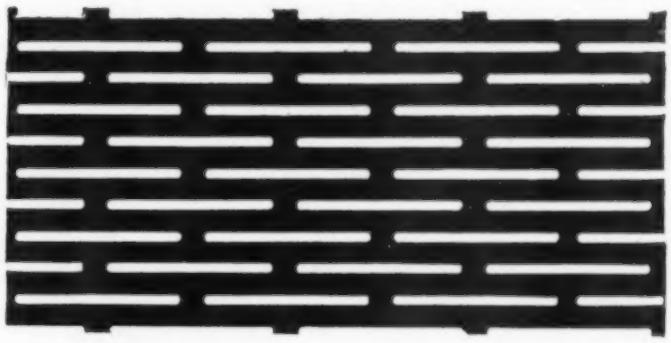
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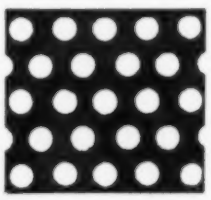
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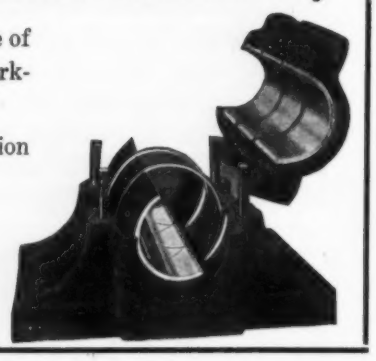
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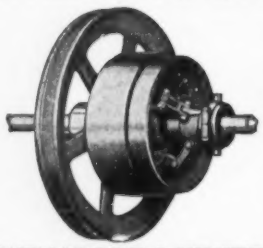
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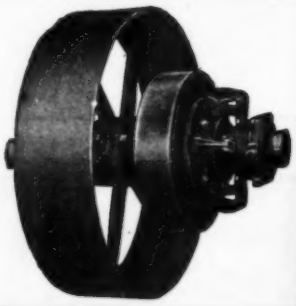


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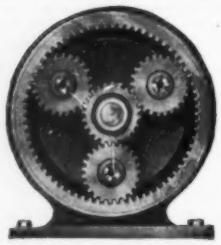
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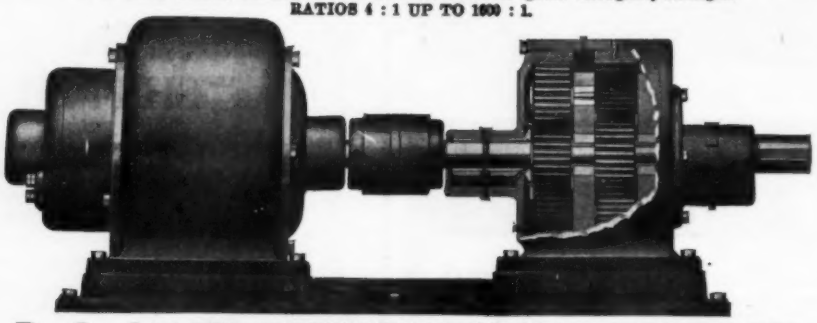


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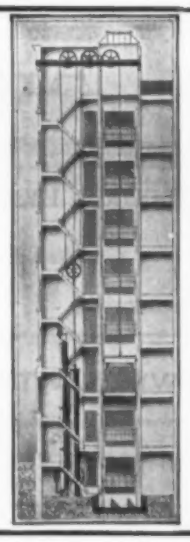


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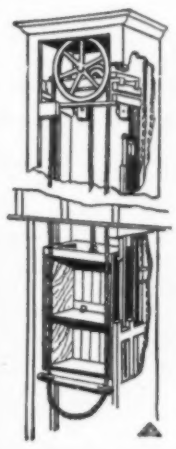
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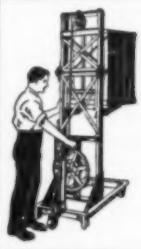
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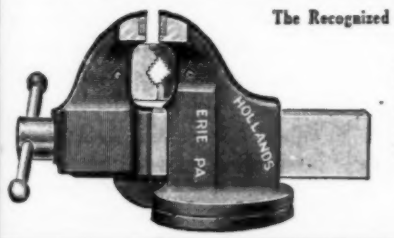
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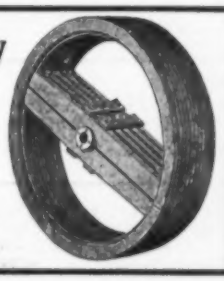
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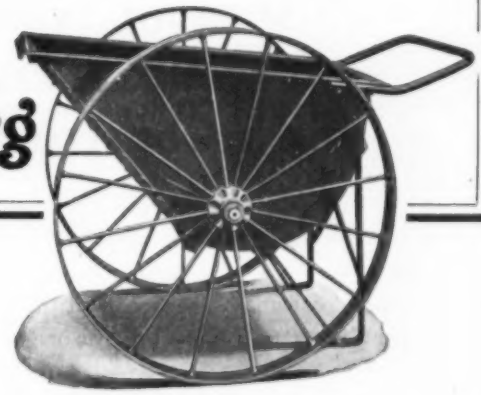
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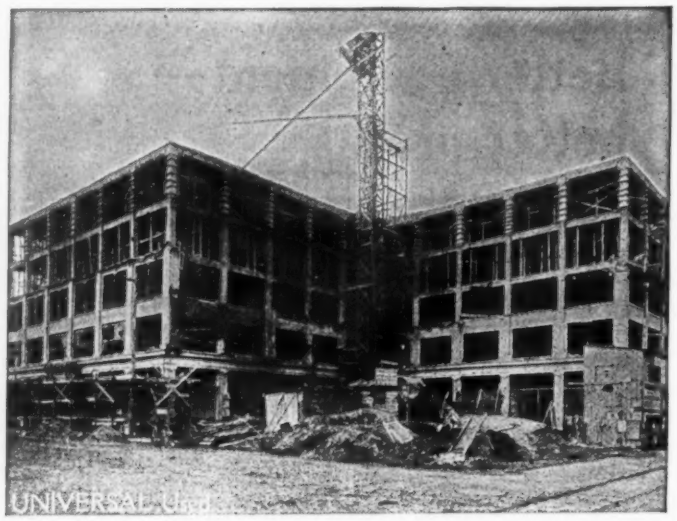
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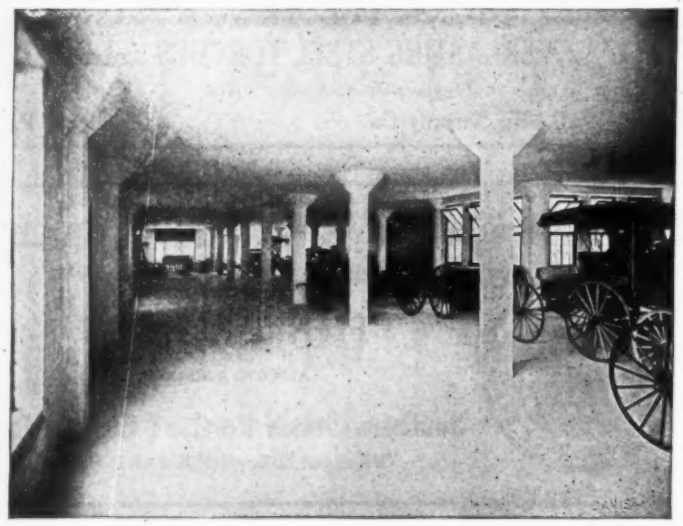


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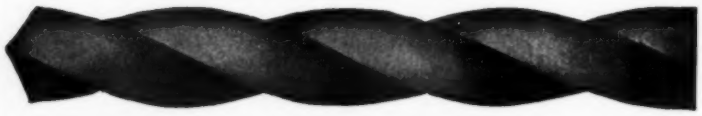
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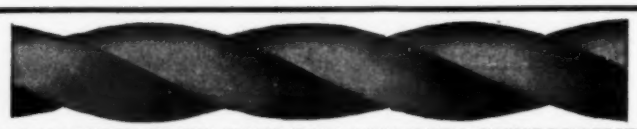
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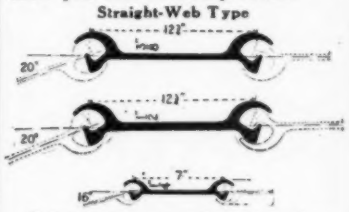
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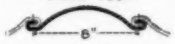
The following sections offer types and sizes to economically meet any sheet pile construction problem:

Straight-Web Type



Suitable for general work and especially constructions requiring high tensional and compressive resistance of the pile section. The smallest size is much superior to wooden sheeting in sewer and trench work.

Plate Type



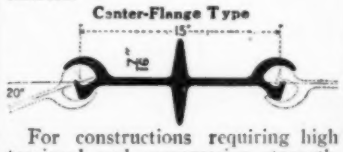
For light cofferdams, permanent work in cut-off walls, core walls, trenches, etc.

Arched-Web Type



Preferable where transverse strength of the pile is of primary importance, as in braced or tied constructions. A wall of this piling is very thin in proportion to its transverse strength, having no greater thickness over all at the centers of the arches than the over-all thickness of the interlocked joints. Flattening the back of the web furnishes a long, straight contact with the waling timbers.

Center-Flange Type



For constructions requiring high tensional and compressive strength, in connection with a fairly high transverse strength. The center-flange acts as a stiffener, increases the section modulus and furnishes means for attaching transverse ties, braces, etc.

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These pictures show construction of one of the dish abutments; first, as the concrete is being placed at a low level, and, second, with concrete completed up to the top tier of timber bracing.

Note that although the Lackawanna Steel Sheet Piling is driven in 40-foot lengths, the cofferdam walls are perfectly plumb and the piling tops quite regular—also that one small pump maintained dryness in this 58x78-foot cofferdam standing in 23 feet of water.

This sheet piling when subsequently pulled and redriven in another cofferdam of about the same size, did its work equally well and was still good for further reuse.

A second cofferdam of same size and design was successfully employed on the opposite side of the Calumet River, as clearly shown in the lower picture.

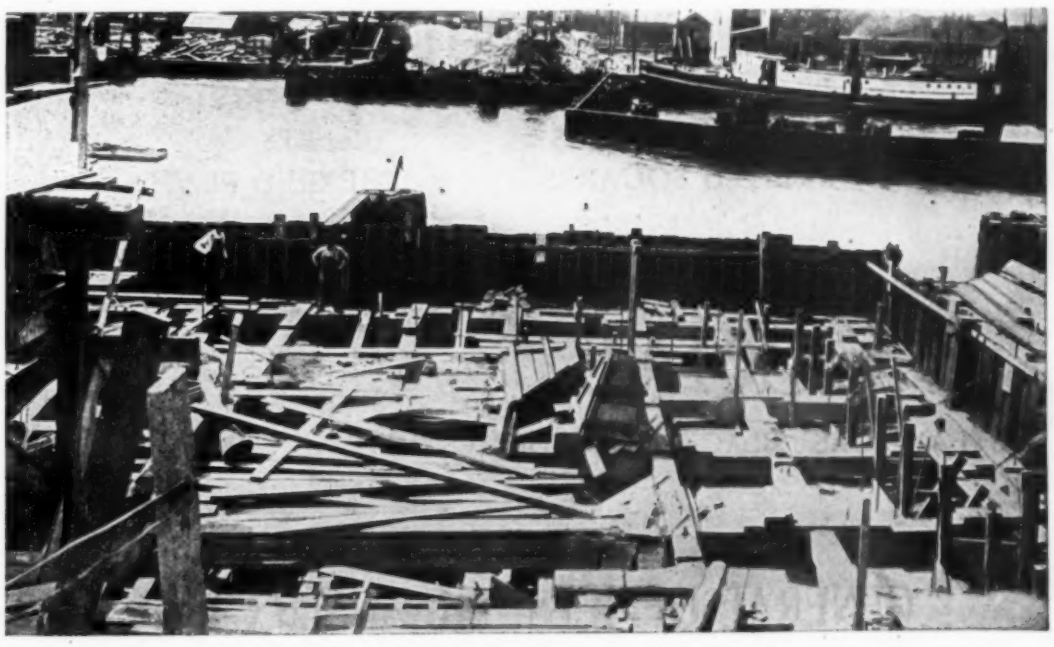
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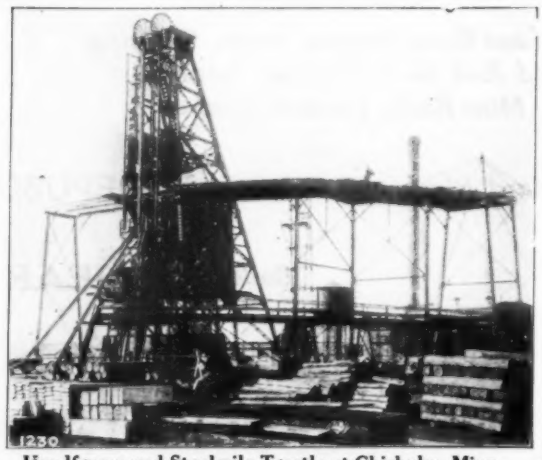
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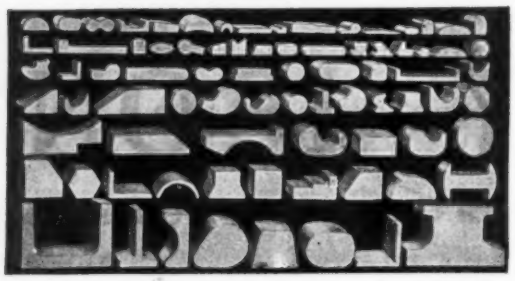
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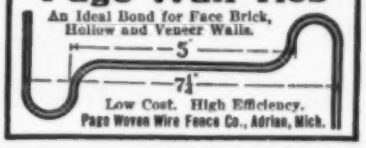
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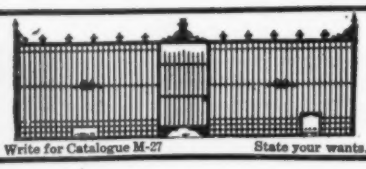
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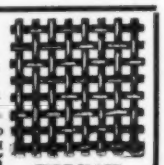
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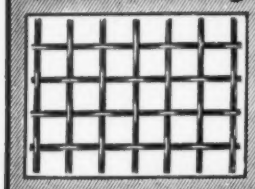
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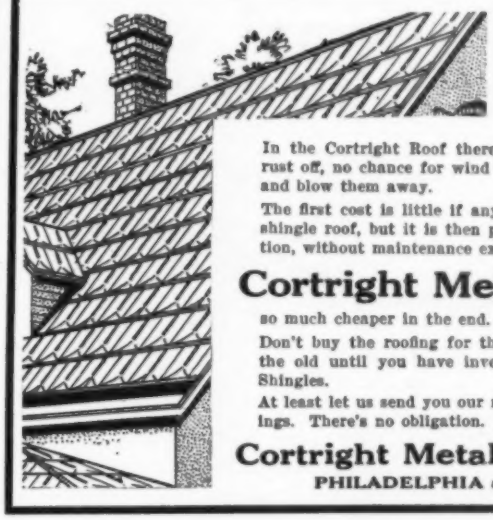
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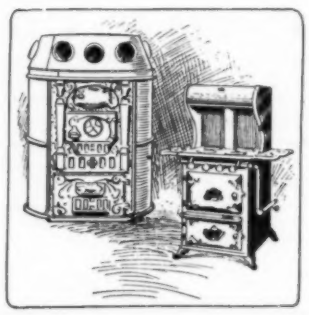
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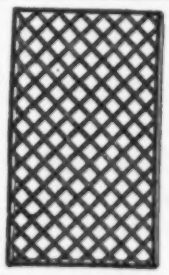
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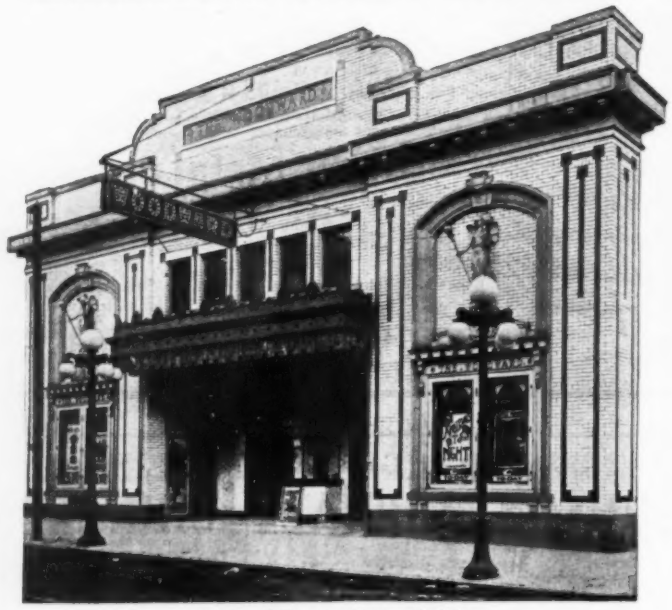
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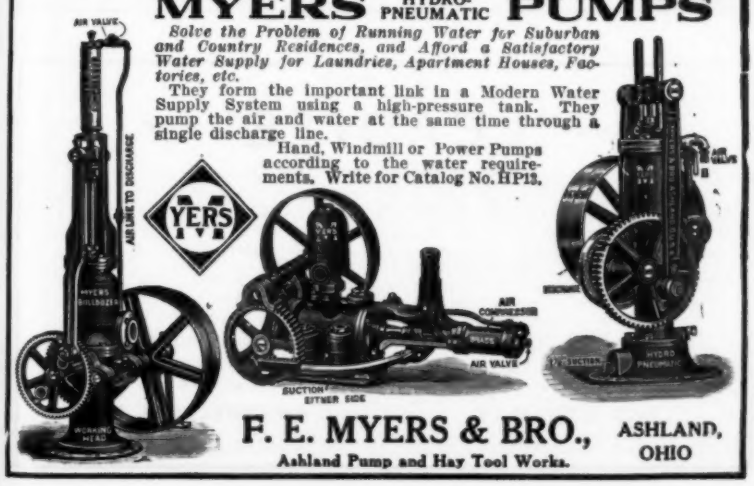
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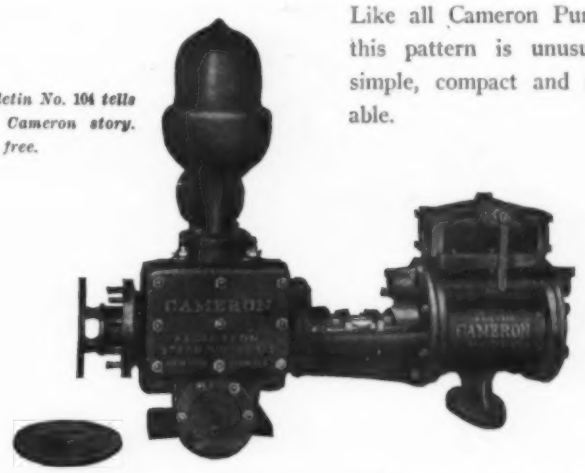
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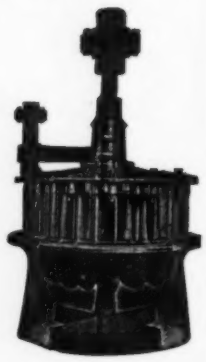
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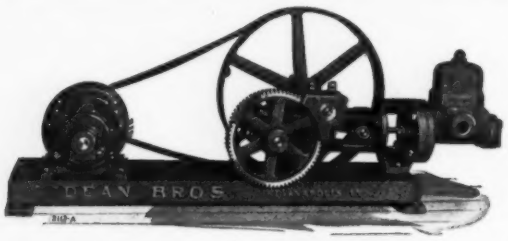
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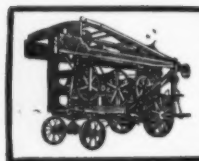
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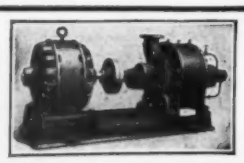
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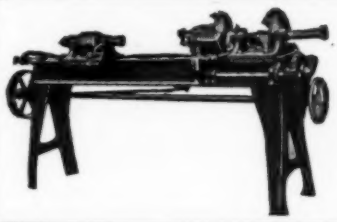
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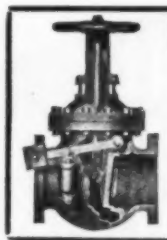


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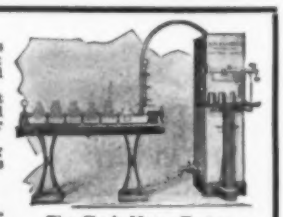
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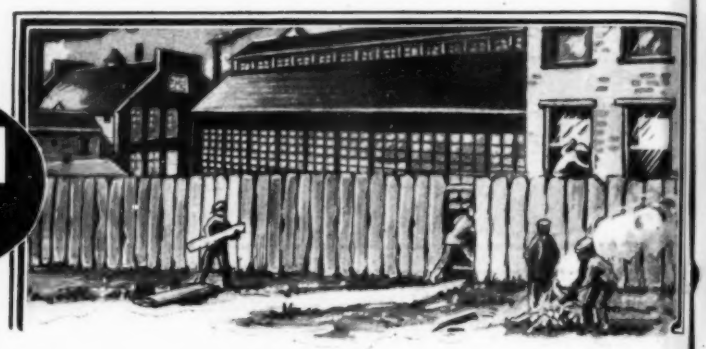


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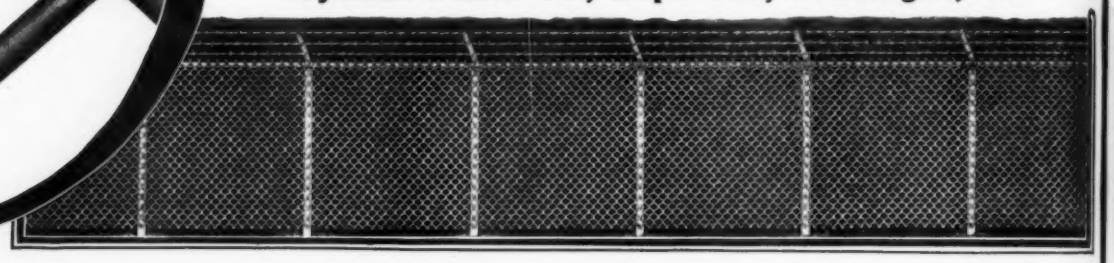
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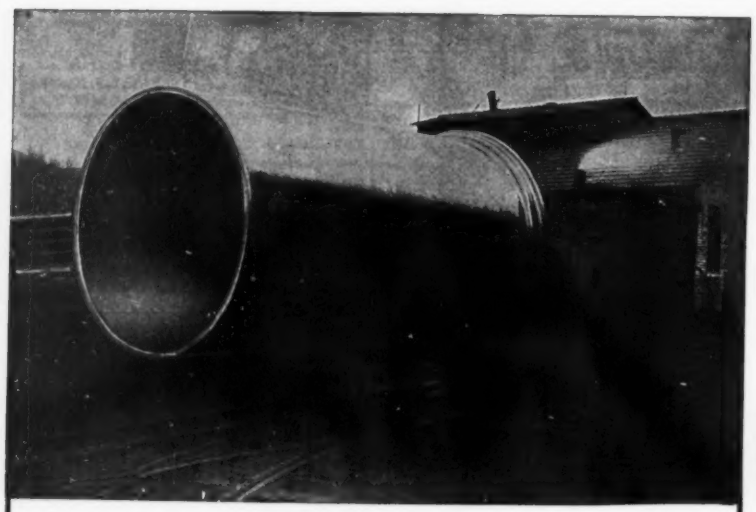
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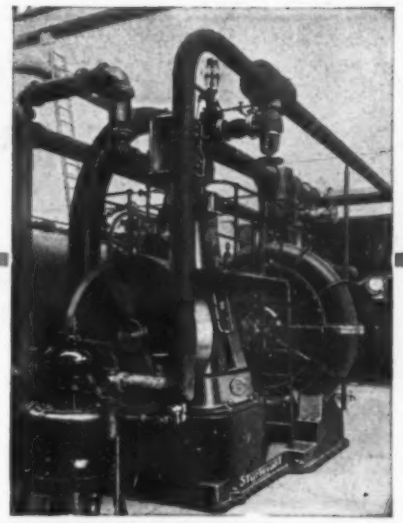
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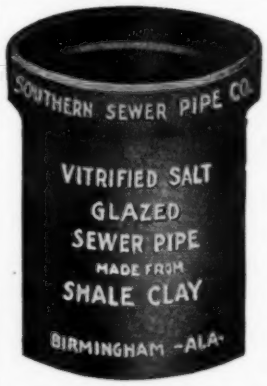
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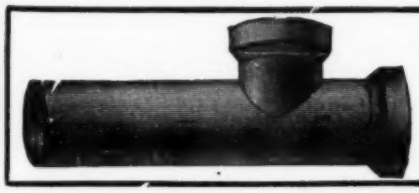
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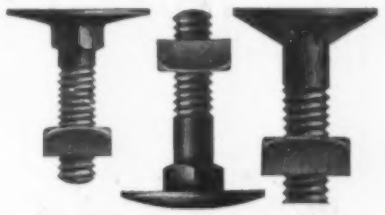
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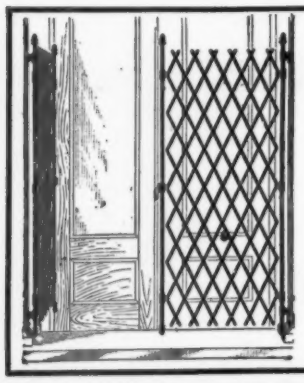
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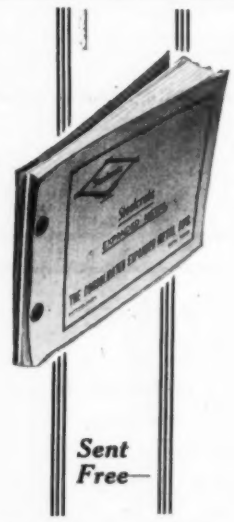


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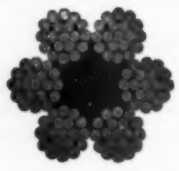
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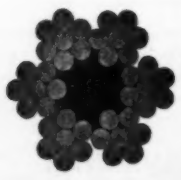
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MANUFACTURERS RECORD

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER

Trade-Name Registered in the U. S. Patent Office

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FOREIGN NEEDS.

THE MANUFACTURERS RECORD is constantly receiving foreign letters showing the need of American wares. Nearly two pages of such lettters were published in our issue of January 21. They were from

Egypt.	Mexico.
Greece.	Spain.
France.	Argentine.
England.	Uruguay.
Holland.	Australia.

These letters contained requests for information as to where to buy the following wares:

Flour.	Iron pipes.
Groceries.	Manila rope.
Canned goods.	Brass tubes.
Confectionery.	Rubber and vulcanite products.
Biscuits.	
Medicine.	Rubber Gloves.
Cotton.	Brass and copper lamp parts.
Wool.	
Silk.	Chairs.
Underclothing.	Steel wire.
Boots, shoes.	Ice machinery.
Hats.	Chemicals.
Collars.	Dyestuffs.
Neckties.	

LIVESTOCK OPPORTUNITIES IN THE SOUTH.

IN 1890, when the population of continental United States was 62,947,714, there were on the farms and ranges of the country 148,741,000 cattle, including milch cows, sheep and swine, or 2363 per each thousand of the population. In 1900 there were 122,864,000 of such animals, or 1617 per each thousand of population. On the first of January, 1915, their number was 172,903,000, or 1750 per each thousand of the inhabitants. The number in 1915, although greater by more than 7,000,000 than the number on January 1, 1914, was nearly 7,000,000 less than the number in 1911. The changes between 1911 and 1915 in the number of food animals by classes are shown in the following table:

	1915.	1911.
Milch cows	21,262,000	20,823,000
Other cattle	37,067,000	39,679,000
Sheep	49,956,000	53,633,000
Swine	64,618,000	65,620,000
Total	172,903,000	179,755,000

There were decreases in number in all classes save milch cows, the most marked decrease being 3,677,000 in sheep. At the same time there were increases in the prices of the animals per head from $39.97 to $55.33 for milch cows, from $20.54 to $33.38 for other cattle, from $3.91 to $4.50 for sheep, and from $9.37 to $9.87 for swine. In 1890 the prices were, milch cows, $22.14; other cattle, $15.21; sheep, $2.27, and swine, $4.72. The increase in prices and the decrease in numbers are reflected in changes in the aggregate values shown in the following table:

	1915.	1911.
Milch cows	$1,176,338,000	$832,209,000
Other cattle	1,237,376,000	815,184,000
Sheep	224,687,000	209,535,000
Swine	637,479,000	615,170,000
Total	$3,275,880,000	$2,472,098,000

An increase between 1911 and 1915 of $803,782,000 in the farm value of these animals, largely in consequence of the decrease of 6,852,000 in their number, with the population of the country increasing at the same time by quite 5,000,000, emphasizes again a line of profitable enterprise for farmers of the South. The demand for meat is bound to increase. If the supply does not increase in fair proportion to the increase in population, the price of cattle, sheep and hogs is bound to continue to advance. At the moment it is not a case of having to search for markets for meat. The whole country is failing to supply existing demands, and the consequent high prices are paralleled, as is shown on another page of this issue, by high prices for hides. There is another phase of the question. Not only will the raising of food animals tend to divert attention from all-cotton growing, but it is likely to result in the establishment of local packing plants, made more feasible than ever before by the expansion in artificial refrigeration in the South. John W. Greer, secretary of the Chamber of Commerce of Moultrie, Ga., describes elsewhere in this issue the success to date of a $250,000 packing plant in his city which began operations on December 14 and which from the day it opened has killed its full storage capacity of hogs and as many cattle as possible in addition. Mr. Greer says that the indications are that there will be enough hogs to run the plant well into the spring and enough cattle to keep it busy through the spring and summer. He is so well satisfied with results that he hopes to build two more such plants in Southern Georgia, two in Florida and two in Alabama. The more corn, oats and wheat, the more vegetables for home consumption and the more livestock are raised in the South, the stronger will the South become in agriculture and the better prepared to meet the increasing demands of its progress in manufacturing.

WHY BUSINESS OUGHT TO IMPROVE.

A NEW ENGLAND business man, in a letter published in the MANUFACTURERS RECORD last week, took a very sane view in regard to the present situation. Pointing out the fact that, though tariff rates are too low, the present situation, by reason of the war in Europe, to a large extent temporarily offsets that disadvantage, since there can be, so long as the war lasts, comparatively small imports from Europe, he added:

> With the high price for crops, a better feeling toward the railroads and a banking bill which furnishes ample credit on which to do business, it would seem as though we must soon have good business again in this country.

That is a logical statement of the present situation. To it might be added the fact that our exports are now running on an enormous basis by virtue of the tremendous demand in Europe for foodstuffs and munitions of war.

The wheat growers of the West are selling their product at more than $1.40 a bushel, and are even able, if they should so desire, to sell their next season's crop at good stiff prices as compared with anything that they have been getting for some years.

Even more notable, however, than the heavy selling of wheat at high prices is the remarkable change that is taking place in cotton. It was but a short time ago when cotton was scarcely salable at all, even at five and six cents a pound. It is now selling freely at $10 to $15 a bale higher than a few months ago, and the demand is active. This means an advance of probably $100,000,000 or more in the value of the unsold portion of the South's chief staple during the last four or five weeks. The tendency is to still higher figures.

The movement of cotton to Europe is exceptionally heavy as compared with the same time in former years, although, of course, we have not yet exported as much since the beginning of the season as in corresponding months in previous years, since it is only recently that this European movement has been so active.

Notwithstanding all of the adverse conditions which have prevailed, it is now possible for the South to quickly readjust itself to the situation and to begin a very broad development. The labor condition is such that construction work of all kinds can be done to very much better advantage than at any time during the last few years. The high price of labor and the heavy demand, which formerly was in excess of the supply, at times made it difficult to operate industrial enterprises or to do construction work to advantage. This has suddenly changed, and now there is a great abundance of labor eager for work and less dominating and domineering than formerly. Towns, counties and cities are beginning very active campaigns for public improvements of all kinds. Indications are that there will soon be a very large amount of public building work under way and road and street improvements let to contract.

The heavy demand from Europe for many things produced in this country is beginning to touch some lines of the lumber industry and cotton goods. It is a lamentable fact that we should have to develop our prosperity by reason of the awful conditions in Europe, which are resulting in giving to many lines of manufacturers in this country orders for war supplies which are taxing their capacity to produce. It is also regrettable that the prosperity of the grain growers of the country is being caused by the European war. Nevertheless, these conditions are stimulating many lines of business and are likely to have a very marked effect in quickening business activities generally, and that, too, despite many adverse and unwise legislative enactments.

On August 12, a few days after war had been declared in Europe, the MANUFACTURERS RECORD sent broadcast through the country a circular-letter headed "The Seat of Empire of Finance and Commerce Is Passing to the United States," in which it was said:

> If, in an altruistic spirit, the countries of Europe had desired to bring about the largest possible development of this country; if they had desired to transfer the seat of the empire of commerce and finance and industry to the United States, they could not in any other way have accomplished it so effectively as they are doing, for they will bring about these results by their own disasters following this terrific war.
>
> Nature has so marvelously endowed this country with almost limitless resources for material development that we have here the foundation on which to build a manufacturing structure far greater than that of all of Europe.
>
> We have an area capable of supporting a population larger than that of Europe.
>
> We have the raw materials with which to keep these people busy in industrial activities and the land on which to produce the foodstuffs.
>
> Here are resources sufficiently great and diversified to provide employment for hundreds of millions, and here, too, are the resources for feeding and for clothing them.
>
> The combination of advantages is nowhere else matched on earth. Nothing else like it is known to mankind.
>
> The conditions which exist in Europe will literally com-

pel a development here whenever the war is ended far greater than we have seen in the past. This war will put the United States ahead fifty years in its domination of the finance and commerce of the world and throw Europe back fifty years. Within twelve months after the war has ended this country will hold a more dominating position in the finance and commerce of the world than it could have held in fifty years of peace. Sad as it may be that our progress will be built on the wreck and ruin of material things and on the death of millions of men and the wastage of billions of wealth in Europe, nevertheless this is the opportunity which the people of Europe are forcing upon us.

Then, too, there are other phases of national life and activity as a result of this war which will be of benefit to our country. In this time of strife, when financial ruin for a few days threatened the country, the National Government and the people at large turned for safety and protection to the very banking intersts which for years they had been denouncing. And not only did the fierce financial storm which threatened us drive this Government and the people to seek the protection of the financial forces of the country, the very forces which Yellow Journalism and the people for which Yellow Journalism stands had been denouncing, but Europe, likewise, turned to these very institutions that they might help to meet some of their problems,

If there is in our people—and surely all must admit that there is—the capability of learning by sad experience, they will learn through this situation to think less harshly of our great business leaders and to recognize their integrity of character, as well as their strength of financial affairs. The Government and the business interests of the country have been brought into closer touch and into closer cooperation than for many years, and out of this much good will come.

While we have thus been learning these vital lessons we have at the same time been suddenly thrust by all the Powers of Europe into the center of the stage to do the great work of maintaining the world's financial equilibrium and shaping the financial and business affairs of the world.

The seat of empire of finance and commerce and industry is already preparing to transfer its home to this, the most supremely blessed land upon which the sun shines.

What matters, so far as we as a nation are concerned, the difficulties of the moment in the light of the limitless opportunities of the coming years? Well may our people of all sections put aside doubts and fears and pessimism and go forward in the broad upbuilding of every business interest.

We can only reiterate the statements made in that letter. Every day has strengthened the force of the position then taken. Every day has emphasized the fact that the seat of finance and commercial power will pass to us unless we should permit ourselves to be misled by unscrupulous agitators and notoriety-seeking politicians into unfortunate entanglements abroad. We have faith enough, however, in the common sense of our country as well as in its Christian leaders to believe that no such unfortunate conditions will be permitted.

It is possible, therefore, to look forward with confidence, whatever may be our views on the economic wisdom of protection or free trade or of many of the other questions that confront us, and count safely upon entering in the near future, if we have not already entered upon it, of a period which will mark the beginning of the most wonderful expansion in business that this or any other country has ever seen. It is altogether within our power to say whether this shall come to pass.

If we can achieve these things under a free-trade tariff, every believer in protection will be satisfied, but if we find that a protective tariff is, as we believe, essential in the long run for our highest advancement, then the people will see that such a tariff is enacted. And so we can go ahead confidently in planning for the future.

A WAY TO CREATE A "BUILD NOW" SPIRIT.

THE MANUFACTURERS RECORD recently commended a page advertisement in the Augusta Chronicle of local concerns interested in agitating the movement to "Build Now," and we would now add a similar endorsement to the fact that the Sylecau Manufacturing Co., lumber dealer, of Rock Hill, S. C., carried in a recent issue of the Herald of that city a half-page advertisement headed "Build Now," in which emphasis was laid upon the opportunity for all building operations to be done to advantage at present. In this advertisement the necessity of quickening the life of the community and arousing a spirit of optimism was pointed out, and it was suggested that it is time to wake up, to put fear behind us and to vigorously do whatever work is before us. The statement was made that "the man who puts off building any kind of a house for six months will pay 10 per cent. more for all of his material. If he puts it off a year, he will pay 25 per cent. more." And to this it was added:

> Let everyone boost the idea of "build now." If you have not anything more to do than a little repair job, give that out. Keep labor employed. That's the way to maintain prosperity.

In calling attention to this advertisement we do so not only to commend the wisdom of the advertisements in the Augusta Chronicle and the Rock Hill Herald, and the wisdom of the people responsible for their insertion, but in order to urge upon every business house in the South in any way interested in construction work to advertise, and to advertise heavily, in the local papers. It is well by word of mouth to carry the message of "Build Now" as far as possible, but it is still better to emphasize it persistently through broad advertising in the local town and city papers. These papers are everlastingly working for the advancement of the community. Every issue of every reputable paper in the South is doing more for the community than the community will ever do for it. It is incumbent, therefore, upon the people in the community to do all in their power to make possible the splendid work which the newspapers are doing. But, more than that, advertising of this kind is directly, as well as indirectly, profitable. It quickens the thought of the community, causes people to make their plans for construction work and enlarges the sale of the materials advertised. There is no more reason why the department store, catering to the general buyers of the city, should be heavy advertisers than there is why the manufacturers and the business men generally of every community should be large advertisers in their local papers.

The lumber company which carried a half-page advertisement in the Rock Hill Herald and those who joined in the combined advertisement in the Augusta Chronicle are setting an example that ought to be followed by every progressive, live business house in the South. If every lumber concern in this section was, through the local papers, vigorously advertising, as the Rock Hill company is doing, and doing it intelligently and persistently, everybody would soon be talking about the wisdom of buying lumber now and doing construction work now. Every brick manufacturer, every cement concern and every other producing enterprise ought to join in such a liberal advertising campaign in home papers as was never seen before. The individual cost to these various enterprises would be comparatively small, but the aggregate result would astonish the country. If next week every newspaper in the South should begin to carry from a page to five or six pages of intelligent, aggressive advertisements from leading manufacturers and dealers in building materials and kindred interests, the whole business atmosphere of the South would change almost over night, and a spirit of enthusiastic optimism would soon be seen and felt everywhere.

This suggestion has no relation whatever to advertising in the MANUFACTURERS RECORD. It is a suggestion to the people of the South to begin at once a broad, persistent campaign of advertising in their local or home papers, whether these papers be the country weeklies or the big city dailies. Activity begets activity; enthusiasm creates enthusiasm; optimism radiates optimism; a spirit of doing things through advertising, with a view to creating enthusiasm and optimism, would soon spread to every nook and corner of every section of the South. This advertising campaign should not merely be a spurt for a day or two, but should be carried out intelligently on broad lines, with big, comprehensive display advertisements that would carry weight wherever seen. Here is a way for the South to help itself which should enlist the co-operation of bankers, wholesale merchants, manufacturers of all kinds, even those (and there are some of that kind) who claim that the sale of their goods cannot be increased by advertising—a narrow and mistaken view. It should enlist the co-operation of the public-utility corporations and the general merchant, wholesale and retail, in addition to those who usually are found in the advertising columns of daily and weekly papers.

If you would see the South "Build Now," and in doing so build broad prosperity, co-operate with all of its people in a comprehensive, constructive campaign to advertise now, and if the South will advertise now, and do it broadly enough, it will quickly "Build Now."

FOR PROMOTION OF INDUSTRIES.

IN introduction to the admirable report of the Industrial Survey of Baltimore, projected by J. E. Aldred and dedicated to the people of that city, the advisory committee of the Survey suggests the organization of a company with an initial capital of from $100,000 to $250,000 to be used in loans to aid in the building up of desirable industrial enterprises, either those already in Baltimore or those that may be induced to locate in this city. As a concrete object for the concentration of an effective, practical public opinion leading in the encouragement of greater activity in manufacturing in Baltimore the committee's suggestion, which is already taking shape as a result of a conference of business men called by Mayor James H. Preston, is an excellent one. The proposed initial capital is not to be invested in a single industrial enterprise, but is to be used merely in the shape of amply-secured time loans to small industries which may need temporary assistance in laying broad foundations for development. The ultimate capital to be so employed is not limited to $250,000. That provision suggests that should the proposed financing corporation be formed it should start with a capitalization of at least $1,000,000 subscribed and to be paid in instalments as the operations of the corporation shall expand. In addition, the corporation would, it is believed, appeal directly to many would-be investors in manufacturing if it should fix upon some definite line of industries to be encouraged at the start. The MANUFACTURERS RECORD believes that such a corporation would render a splendid service to Baltimore and earn much for itself if it should assemble various forms of the desire for more manufacturing about enterprises to manufacture goods of various kinds for Latin-American markets or about enterprises determined to widen greatly as is possible the markets in this country, both nearby and remote, for products already made in Baltimore.

SHIP PURCHASE BILL AND THE FOLLY OF IT.

CHARLES CATLETT,
Chemist and Geologist,
Staunton, Va.

Editor Manufacturers Record,
Baltimore, Md.

Dear Sir—On returning from an absence I have only now an opportunity to read your editorial in the issue of January 14 opposing the passage of the ship bill. I most heartily concur in everything you say.

I had already written to Senator Swanson asking him if he would send me any speeches which had been delivered in favor of the bill and which carried such detailed information as would convince an ordinary business man of the soundness of the proposition. I have yet to find in my travels a single person who is in favor of it, and I have not yet been able to find any statement of the proposition which commends itself as being conservative or which carries facts and figures that would appeal as logical to a business man.

There must be two sides to everything, and I always try at least to see the other fellow's point of view, even if I cannot agree with him. But up to the present time all the information that I have been able to get hold of is so vague and indefinite that I simply cannot understand why, in view of the temporary condition, it is proposed to make such a permanent radical change in our policy, and one which, just at this time, must bring added complications.

Yours very truly,
CHARLES CATLETT.

The views expressed by Mr. Catlett are, we believe, in harmony with the very best sentiment of the entire country. Partisans who try to uphold everything that their party may put forth may endeavor to create an impression that the proposed ship-purchase bill is a wise move. But men and papers not controlled by partisan views, who care more for their country than they do for party doctrines and party politics, recognize the great dangers involved in this proposed bill, not only dangers of interna-

tional complications which we would justly bring down upon our head, but dangers to our Government itself.

The concentration of power in Washington proceeds with amazing rapidity. We are becoming the most bureaucratic and the most dominating ruler of business by Government known to the world, and to all that has been done looking to the centralization of everything in Washington it is now proposed to add the most radical step ever yet made by the Government in this scheme for Government-owned steamers. Mr. Catlett rightly expresses the conditions when he says:

> I simply cannot understand why, in view of the temporary condition, it is proposed to make such a permanent radical change in our policy, and one which, just at this time, must bring added complications.

The voice of the country should be heard in opposition to this measure, regardless of political affiliations. It is too big a question to be trifled with. The MANUFACTURERS RECORD is by the South, of the South and for the South, but it has no political affiliations which require that it shall favor or fight measures because of politics. It condemns or commends, as in its judgment seems justified, political movements, regardless of the party that favors or disapproves them. And that is the only basis on which intelligent business men should consider the great economic problems affecting the welfare of the country. Until these economic questions are studied from the business point of view, entirely without regard to party views on them, we shall never have an intelligent discussion and a sound decision on them.

Political Parties Cannot Settle Question Definitely.

Atlanta, Ga., January 18.

Editor Manufacturers Record:

I notice in your Bulletin of the 15th inst. an article written by Mr. G. E. Reynolds, manager of the Reynolds Brothers Lumber Co., Franklin, N. C. I admire Mr. Reynolds' conservative spirit in setting forth his opinions on a subject that has received the most careful consideration by the ablest men that this country has ever produced. As long as questions of this sort are in the hands of political parties it will never be settled definitely or at any time to the satisfaction of the people.

It is a matter of fact that the Republican party has been promising for the past 20 years the reduction of tariff. Both Roosevelt and Taft favored a tariff commission. That was suggested by D. A. Tompkins of Charlotte 25 years ago. President Wilson's idea of making the trade commission practically a tariff commission also has the strongest reason back of it.

I have often thought that questions of that sort should be submitted, as they are in Great Britain, to a vote of the people. W. P. FERGUSON.

Hardwood Manufacturers.

The program for the annual convention this week at Cincinnati of the Hardwood Manufacturers' Association of the United States includes, in addition to the annual address of President J. H. Himmelberger of Cape Girardeau, Mo., and the report of Secretary W. H. Weller of Cincinnati, addresses on "Inter-Insurance," by Chas. F. Simonson of Chicago, manager of the National Lumber Manufacturers' Inter-Insurance Exchange; "Present-Day Forest Problems," by H. S. Graves, Washington, D. C., Chief Forestry Bureau; "Efficiency and Costs," by L. V. Estes, Chicago, president L. V. Estes, Inc.; "Business and the Banking Law," by Congressman Robert J. Bulkley of Ohio; "Some Troubles of the Lumber Industry," by R. S. Kellogg, Chicago, secretary National Lumber Manufacturers' Association, and by F. C. Gifford, secretary National Association of Box Manufacturers, Chicago, Illinois.

Seeking Creamery Location.

A suitable location in Virginia for a creamery is sought by A. E. Downen of Thompsonville, Ill., who now operates two creameries in Illinois and contemplates removing one of them to the South.

For the Expansion of America's Foreign Trade

"Has public opinion in the United States come to a place where it would deliberately approve, under conditions of necessity, for American business men to make lower prices for their export goods than for those which are sold at home?

"Under the operation of our reserve banks, which are charged with the duty from time to time of fixing rates of discount on commercial paper, and which are also charged with fostering the business of the United States, because special provision is made in the Reserve Bank Act. for the discount of foreign bills, are our people going to approve the creating of one rate of discount for domestic transactions and another rate competitive with the rates which are established throughout the globe for foreign bills?

"Are we sufficiently in earnest in supplementing the home business of our American firms, with all the disadvantages to the manufacturer of their higher scale of living and their higher rates of wages, to authorize our railroads to make joint rates with steamship lines so that the manufacturer in St. Louis or Chicago or any other point in the country can be placed upon a favorable basis of competition, so far as transportation is concerned, with the inland manufacturer of England, Germany or France?"

These were the questions presented to the National Foreign Trade Council at the banquet on the 21st inst. on the occasion of the second meeting of the body, held in St. Louis on the 21st and 22d inst., by Alba B. Johnson, president of the Baldwin Locomotive Works, chairman. He, as toastmaster, had spoken of the address at the morning session of Hon. W. C. Redfield, Secretary of Commerce, and referred to the fact that "other countries have not limited their work of cultivating foreign trade to an excursion of a Chamber of Commerce or to a visit to a foreign country by a representative or a member of a firm for six months, or even to send a man to study the situation for a period of three years. "Our competitors," he said, "do differently. Many of the best houses in England send their young men abroad for 20 to 25 years, until they know every important man in the business, know the language, until they are past masters in all the details of the business pertaining to that country. We must do the same thing if we are to secure the export markets."

James A. Farrell, president of the United States Steel Corporation, and president of the council, delivered his address, and remarks were made by Prof. Jeremiah W. Jenks, New York University, and David R. Francis of St. Louis.

The banquet followed a day of hard concentration on the questions before the council. The meeting was called to order on time by Mr. Alba B. Johnson, president Baldwin Locomotive Works, and addresses of welcome were made by Mayor Henry W. Kiel and Samuel D. Capen, president Business Men's League of St. Louis. Mr. Johnson was subsequently made permanent chairman.

The first address was made by Secretary of Commerce Redfield, and he was followed by John Bassett Moore, former counsellor of the State Department. D. W. Kempner of Galveston, Tex.; Henry Howard, vice-president Merrimac Chemical Co., Boston, Mass.; Carman F. Randolph, New York; John J. Arnold, vice-president First National Bank, Chicago, Ill.; E. A. De Lima, president Battery Park Bank, New York; F. J. Kent, vice-president of the Bankers' Trust Co., New York; Louis S. Goldstein, New Orleans, La.; Murray Carleton, St. Louis; C. A. Green, New York; W. L. Saunders, chairman of the board, Ingersoll-Rand Company, New York; John D. Ryan, president Amalgamated Copper Co.; D. E. Skinner, Port Blakeley, Washington; Wm. C. Downs, United States Commercial Attache for Australasia; C. D. Mitchell, president Chattanooga Plow Co., Chattanooga, Tenn.; J. Stevens Ulman and H. C. Lewis, National Paper & Type Co., New York.

At the morning session an expression was asked as to the interest in the proposed group meetings. It developed that the largest interest was in the problems of the smaller manufacturer and merchant; this group was presided over by J. M. Hurley, president of the Illinois Manufacturers' Association; the chairman of the group discussing the problems arising from foreign trade was Professor Jenks; the chairman of the group discussing foreign banks and credits was Murray Carleton; the chairman of the group discussing government regulation was Prof. Edwin F. Gay; the chairman of the group discussing commercial education for foreign trade was Prof. Roland G. Usher, and immediately after adjournment on the afternoon of the first day these groups gathered in their assigned places.

On the second day speeches were made by Edwin F. Gay, dean of the Graduate School of Business Administration, Harvard University; Professor Jenks of New York, and Prof. G. L. Swiggett, University of Tennessee, Knoxville. The paper of W. D. Simmons, St. Louis, was read in his absence, and that of James J. Hill, St. Paul, by J. L. Schaefer, vice-president W. R. Grace & Co., New York.

Secretary of Commerce Redfield secured the platform and vigorously defended the administration policy for ship purchase. He said there was a wide publication of predictions of trouble if this country purchased German ships, while no such prediction had been made where the purchase of ships of other nations was considered. He said he had offers of sale of 12 English ships and some French ships that were immediately available. The day before, in another city, he gave a merchant a letter from the English ambassador saying there would be no objection to our purchase of German ships for use in South American trade. Then he referred to the operation of the Panama Steamship Co., and by figures covering interest, depreciation and everything else entering into the proposition, including two trips each year carrying Government bodies, showed that a Government owned and operated shipping industry was profitably conducted. He added that many statements that had been made as to the Government's intention and ability were based on surmise, and deplored the readiness to criticise without a knowledge of facts. "Men who propose ship companies," he said, "have been asked by me if they will make the handling of American shipping the primary object, but they give no assurance. The extortion of foreign rates is closing our factories and preventing our shipping. I think the United States should secure vessels for our trade. I should take up first the South American trade. The shipping end is of infinitely small importance; the big end is that American commerce must be free to move." Then he spoke of information that had come to his department showing an entire disregard of personal agreements and written contracts for shipping at agreed-upon freight rates, and cited instance after instance of increases in rates from 100 to 500 per cent., the refusal of companies to handle the lower-rate freight in favor of goods at higher rates, and the utter refusal in some cases to handle freight at even the advanced rate despite existing contracts. There was a shout of laughter when he presented the reverse side by quoting from a Liverpool newspaper telling how British shipowners were making huge profits out of the situation, the article saying the normal rise in freight rates was 400 per cent.

"What would you do if a railroad company did not accept your goods? We will listen with wide-open ears and sympathetic hearts to any man who tries to correct this matter and do it quickly. American commerce has a right to go. No one has shown us the way to make it move. No one has made a practical suggestion. We will be glad to have it. If no one else will do anything to relieve the situation, I hope Uncle Sam will."

Welding Ring, of Mailler & Quereau, New York, who prepared an address in discussion of Mr. Hill's paper, disregarded it entirely and made answer to the Secretary of Commerce. All available steamers suitable for carrying cargoes are filled to their capacity at the present time. German steamers which represent a large carrying capacity are out of business; some English steamers are interned in the ports of Hamburg and Bremen; there are a large number of English, French and Russian steamers that are being employed for transport purposes. Secretary Redfield failed to tell us where to get steamers. Another reason we cannot get vessels for United States cargoes is that in Genoa alone there were

54 steamers unable to get unloading berths to discharge cargoes. A cable from Havre said "there were no means to afford space for turning cargoes, and no men to do it on account of the war; we cannot handle the tonnage; send no more here." In London there have been steamers from 15 days to six weeks unable to discharge. This ties up a vast carrying capacity.

The congestion of freight is only to Europe. It does not apply to other parts of the world. There has been an ample supply of tonnage to South American ports ever since the war began, but there have not been sufficient cargoes for them. The freight rates that are mentioned as being so high are all at European ports; vessels come back in ballast. I know of one case where the increase in freight rates is 300 per cent., and yet the steamer will show a loss at New York. Conditions are abnormal, and the Government cannot help us out. The Chamber of Commerce in New York voted unanimously against the Government's proposition to buy and operate steamers. The Government's proposition is unworkable; it would give us no relief whatever, and I hope Congress will not pass the bill.

J. J. Schlechter of Lloyd Braziliero, New York, said he could not see where the freight was to come from to require any considerable purchase of ships for South American trade, and said the Belgian relief work had taken many steamers out of freight service. For his own line, they were chartering American sailing ships to transport coal at a rate twice that which had previously been charged.

Lorenzo Daniels, New York, said one reason for the lack of American steamers was that many foreign companies were willing to operate on a basis of 4 per cent.

In the afternoon the various group conference chairmen reported back to the council the results of their respective meetings.

James E. Smith, St. Louis, presented a resolution thanking Mr. Johnson for the able and impartial manner in which he had conducted the deliberations of the council. Mr. Johnson, in thanking the council, expressed gratification at the thoroughness with which the Business Men's League of St. Louis had planned for the meeting, and Mr. Capen responded fittingly. John J. Arnold, Chicago, spoke of the tireless efforts of Mr. Farrell, chairman of the council, in preparing for the successful meeting.

The personnel of the meeting was high. The nature of the papers and the character of the discussion were remarkable. The Business Men's League of St. Louis planned the details of the convention with great skill. Every possible comfort and convenience was placed at the disposal of the delegates. A. C. BOUGHTON.

SALIENT POINTS IN FOREIGN TRADE COUNCIL PAPERS.

[The formal papers prepared for the St. Louis convention under the auspices of the National Foreign Trade Council represented opinions of men of experience in many lines. Brought together, they would make a volume of value for permanent reference. Some salient points in them are published in the following columns.—Ed. MANUFACTURERS RECORD.]

THE OUTLOOK FOR FOREIGN TRADE.

By WILLIAM C. REDFIELD, Secretary of the Department of Commerce.

Not many of our industries have been prepared to do export trade. Some did not care for it; others did not know how to do it. It has not been in the strict sense as yet chiefly a cultivated trade—rather the reverse. It has almost grown of itself through trial in many lands of our goods and through repeat orders that came because they were satisfactory. A great many of our manufacturers were brought up to believe they could not do export trade, and therefore did not try to do it. Many others treated it as a sort of flyer to fill up the shop when times were dull and necessarily came to grief, as that process always will come to grief, through their neglect of their foreign trade when times got busy.

"There have been lacking here information and organization and appreciation. On the opposite side with our competitors all these forces existed in vigor, and in addition they loaned vast sums to the countries with whom they sought to deal and naturally drew great commercial returns as well as interest back. They have controlled public utilities, many private enterprises, most banks, and we have had to make our way by the sheer force of unorganized private effort and good quality against the highly-organized, well-financed, scientifically-developed commercial strategy of our competitors. The success we have won in this seemingly unequal combat should bring pride to every American heart and inspire courage and enterprise in every business man.

At the very time when there has been a cult in this country teaching our inability to compete abroad we have been so competing in greater and greater volume and on a wider and wider scale, until we have built up a great and growing business in foreign lands. This has been wholly good. No foreign order but means at least two domestic ones, namely, one for materials and one for labor, and perhaps many such.

Wonderful as is the growth of our foreign commerce in these recent months, every shipper in that field knows that the trade which exists is but a small part of that which would be if our commerce were not being throttled at its source by the exactions of foreign-owned steamship companies. I do not hesitate to say that if the facts were fully known, public opinion would insit upon drastic action which would prevent the recurrence of the arbitrary series of hold-ups and exactions of which our foreign commerce is today too much the unwilling victim.

If specifications are called for, they will be found in the correspondence which before leaving Washington I placed in the hands of the Secretary of the Treasury to be transmitted by him in his name and my own to the Senate as our response to the resolution of that body calling upon us for information respecting the advance in ocean freight rates.

I hear a great deal in this connection about the law of supply and demand, but I have yet to learn that a railway when it is busy may exercise the right to refuse goods from one shipper or to select from another those which they prefer to send; but this right has been exercised by the steamship companies on our coast.

I know of but one way to solve this problem with that speed which is essential if American commerce is not to lose its present opportunity, and that is for the Government, which alone represents us all, to use its authority in the purchase or charter of vessels about whose neutrality there can be no question whatever to reduce the exactions now imposed upon us.

FREEDOM FOR OUR FOREIGN TRADE.

By JAMES J. HILL, Chairman of the Board, Great Northern Railway.

The one indispensable condition of the restoration, extension and maintenance of our foreign trade is the provision from some source of adequate ocean carriage. All other difficulties are in process of solution. But merchant ships must be had; our need of them is almost as great as that of other nations for munitions of war.

There are but two resources; one, a merchant marine owned and operated by the Government; the other, a merchant marine provided by and for the people. The former, just now urgently advocated, is an unwise and would certainly be a disastrous experiment. Aside from the complications, almost certain to drag us sooner or later into the European conflict, owing to the uncertain and conflicting claims of national neutrality, this policy would be followed by the total destruction of the private shipping interest. Private enterprise cannot possibly compete with a Government which pays no interest on the cost of its ships and throws aside considerations of profit and loss.

This method of relief ought to be dismissed by every right-thinking man as a chimera and a menace. There remains, then, only the resource, as old as human experience and as unfailing, of dependence on private initiative. Give it a chance. It has seemed inadequate only because it has been bound hand and foot by restrictions and regulations unworthy of this enlightened age. The American merchant marine needs just one thing, but that it must have if it is to revive. Put it on an exact equality with the other shipping systems of the world. Let the American citizen be authorized to procure and to operate vessels on the same terms as the citizen of any other country is under its laws, and his ability and enterprise will do the rest.

A firm declaration for a merchant marine subject to no other restrictions than are imposed by the nations which have done the carrying trade of the world is the only demand worthy of this important body and of our country, which stands once more today, as to its foreign trade, at a dividing of the ways.

AN AMERICAN MERCHANT MARINE.

By WELDING RING, of Mailler & Quereau, New York City.

The oft-quoted adage that "trade follows the flag" may have been true many years ago, but it has ceased to be true now, for cheap transportation is one of the primary elements; another is financing on favorable terms, and still another the supplying of better goods than our competitors.

Whether this country is or will be prepared, through its banks and bankers, to furnish the same facilities for financing the export trade that foreign countries have been able to secure from England, France and Germany is a problem for them to decide; but at present time it is of far greater importance than any supposed scarcity of tonnage for carrying purposes.

The question of "How shall we restore our merchant marine?" is one much easier asked than answered. It has been on the lips of thousands, and many have tried to solve the problem, but so far without success. There are many and almost insuperable obstacles in the way, and yet, with the indomitable perseverance of the American people, these obstacles should and must be overcome.

A careful estimate places the amount of foreign tonnage owned by Americans at 2,000,000 tons. Why do these owners fail to place this tonnage under the United States flag? For no other reasons than that it would cost more to operate it, and the many restrictions and conditions imposed by the navigation laws of this country. Naturally they would prefer by far to sail under the Stars and Stripes, other conditions being equal, but with the handicap of extra cost and greater difficulty of operating, they are unwilling to make the change.

If Congress would pass a bill permitting owners to operate in the foreign trade on a competitive basis, meeting other tonnage on the same footing of operation and free from harassing exactions, there is every probability that the large volume of American-owned foreign tonnage would speedily seek the honor and protection of the United States flag, and this country would in a brief time resume its former proud position among the leading maritime nations of the world. And further, this change would be effected without the expenditure of a dollar by the Government, would eliminate any competition between Government and private interests, would avoid any taint or question of subsidies, and would be the quickest and most effective method of restoring our merchant marine.

There would be a renewed incentive for private capital to make further investments when they knew they could buy and operate on equal terms and become owners openly instead of under the protection of a foreign flag.

Americans are quick to appreciate and avail of good opportunities, and there can be no question of their willingness and eagerness to become leaders in the world's commerce, with the Stars and Stripes always at the fore.

PROBLEMS OF WAR AND COMMERCE.

By JOHN BASSETT MOORE, former Counsellor of the State Department.

Generally speaking, the breaking out of the war between two or more countries does not take away the right of neutrals to trade with them. Any denial of that right must rest on specific grounds, and can be asserted only by specific measures.

The belligerent right of visit and search is only a means to an end, and the end with which it is chiefly concerned is the prevention of any infraction of the law relating to blockade and to contraband.

A blockade, in order to be binding upon neutrals, must be effectively maintained; that is to say, maintained by a force reasonably sufficient to prevent entrance to the blockaded port.

The rule that an enemy's goods are not subject to capture on a neutral ship is subject to a notable exception, namely, that of contraband of war. If the goods are contraband the ship and cargo are subject to seizure, just as before.

The practical and substantial distinction between articles absolutely contraband and articles conditionally contraband is that the former become contraband merely upon destination to a belligerent country, while articles conditionally contraband may be shipped directly to a

belligerent country unless it be affirmatively shown that they were destined for a hostile use.

The so-called "Declaration of London,' which was signed on February 26, 1909, by representatives of Austria-Hungary, France, Germany, Great Britain, the Netherlands and the United States, was designed to furnish a uniform law for the administration of an international prize court under one of the conventions adopted at The Hague in 1907.

The Declaration of London was approved by the Senate of the United States. In Great Britain a bill was passed by the House of Commons to give it effect, but an adverse agitation, partly due to the supposed menace to the country's food supply, having sprung up, the Lords withheld their assent and the Declaration never became internationally binding. In view, however, of the place it has occupied in international discussions, and of the action of certain governments in regard to it, it cannot be left out of account in the consideration of the subjects to which it relates.

In addition to the woes arising from developments of the contraband question, neutral commerce has had to meet in recent years a new obstacle potentially more deadly than any ever previously devised. The discharge of projectiles and explosives from aircraft, which exposes men, women and children, and the strong and the helpless alike, to indiscriminate peril of death and of mutilation, may be regarded as the counterpart on land of the use of floating mines at sea. Nearly or quite a year after the Russo-Japanese War a peaceful merchantman was blown up at sea by contact with a drifting mine.

The seas outside territorial waters are the common highway of nations, and none of them has the right to render the use of that highway insecure.

The practical experience of the present war has shown the importance of expanding in the United States the business of marine insurance, so that the country may in case of wars in which it is neutral no longer be dependent upon the resources and aid of foreign companies.

I am led to comment upon a phrase often heard, to the effect that "commerce is war." This view is obviously one-sided. While commerce undoubtedly involves competition, it is in its essence an exchange of benefits. Conducted upon lines of monopoly, as in the days of the old colonial system, commerce does indeed assume the aspect of warfare, but the experience of the world has shown that the old colonial system, instead of promoting trade, fettered it.

What Americans desire, and what they are entitled to, is opportunity—equality of opportunity. If they demand more than this, they ask for more than they need. Their commercial expansion, great as it has been, has but begun. The future is theirs.

FOREIGN BANKING AND CREDIT.

By JOHN J. ARNOLD, Vice-President, First National Bank, Chicago.

Foreign banking facilities have long been recognized by European financiers as fundamental to the successful development of foreign trade, and on this account European capital has found it advantageous, if not actually necessary, to organize banking institutions in foreign countries where adequate banking facilities were lacking. Reciprocal banking arrangements for the purpose of financing transactions had between the two countries concerned undoubtedly has proven very successful and satisfactory, but where such countries are both interested in the development of trade with a third nation, it is absolutely illogical and unreasonable for one country to be successful when such country is compelled to do its financing with the third party through the banking institutions owned and controlled by its competitor. And this is exactly what we have had to contend with in our efforts for trade development with Central and South America and the Orient, and to the student of the question it is really surprising to note that our trade with these countries has developed as rapidly as it has.

The question of establishing American banking institutions in Latin-American countries as well as in the Orient, we believe, is vital to the issue.

It is a well-recognized axiom that a bargain, in order to be real successful, must be beneficial to both parties concerned. In the making of foreign loans this fact should be especially emphasized.

Under the operation of our Federal Reserve Act we are now placed in a position where our credit facilities are made more elastic, and on this account I believe that the time is most propitious for American capital to seek employment in this manner. What applies to South America applies to the Orient as well.

I believe that we should work toward the development of a system of credits furnished by satisfactory banks covering the importation of goods from the United States. In the past, owing to the limitations of our banking laws, it was necessary to have such letters of credit made available through a European bank, principally London. Under the Federal Reserve Act, however, this three-cornered arrangement can and should be eliminated. In this way we would establish in the course of a very short time a direct dollar exchange market between North and South America and the United States of America and the Orient, taking away from London the undue advantage which that center has had in the past.

EXPORT TRADE AND NEUTRAL DUTY.

By CARMAN F. RANDOLPH.

If a nation's trade were simply a series of individual bargains for individual profit, a neutral nation might, in pressing or defending in commerce during a quarrel among its neighbors, be fairly charged with sordid motives. Looking above the petty details of bargaining, we realize that national trade is the basis of national livelihood; hence it demands the stateman's special care when it is racked by war.

The particular interests of the United States are quite sufficient to warrant a strong but temperate demand for a proper respect for neutral commerce, and the United States will, in maintaining their trade at as high a level as a just regard for belligerent interests permit, serve the larger and permanent interests of the world.

The United States may be trusted to vindicate their commercial rights and embrace their commercial opportunities during the war. In so doing they will tend to advance their financial strength to a point where it may serve the world. Keen-eyed statesmen in both camps realize how seriously the financial adjustment may be prejudiced if desperate militarism shall be suffered to impair the financial stability of the United States. This stability may prove the rock of credit for the world.

Whether or to what degree the war will bring to us ultimate advantage or disadvantage depends largely upon changes in international trade relations and trade routes.

Let our merchants diligently promote foreign trade in war and peace by solid constructive work. In this work men of affairs must take the laboring oar, but the law side must not be neglected—the powerful influence upon foreign trade exercised by treaties, statutes, official powers, etc. What were the material features of this body of law before the war? How has war affected them? What alterations should the United States adopt for themselves and commend to other nations? The duty of the moment is to back the Government's effort to lessen the war hazards of foreign trade.

GOVERNMENT REGULATION IN FOREIGN TRADE.

By W. L. SAUNDERS, Chairman of the Board, Ingersoll-Rand Company.

The day is happily past when there is occasion, in a discussion of Government regulation of commerce, to introduce any question as to what Government should or should not do as far as trade in the United States is concerned. We have passed through a long period of discussion and dissension in public print, in Congress and in the courts, involving not only the question whether Government should or should not regulate business, but there has been much uncertainty and difference of opinion as to the interpretation of laws already in existence. We now know that the Government has decided to regulate business, and recent judicial decisions interpreting the Sherman Act have made plain what it prevents and what it permits.

During all this uncertainty how natural it is that business should have been depressed, and while most of us will agree that the primary cause of depression has been through international relations which exercised their forces even before the war, yet the uncertainty as to Government regulation of business at home, and the fear that it might go too far, has without doubt restrained enterprise and dulled the edge of progress.

We have been doing business since 1890 with the sword of Damocles held over our heads. There has been no Government control of business until recent years. The very looseness of the situation, resulting in such absolute freedom of action, led men to do things in business which they would not think of doing in private life. The interest of the whole community was sacrificed for the interest of a few. Private monopolies grew even in the common necessities of life. The abuses among railways, utility corporations and private enterprises were, in certain well-defined instances, so flagrant that it became no longer a question among fair-minded men that the hand of the Government was needed to restrain the tendency to commercial destruction which was prophesied by Virgil as endangering a republic, through *auri sacra fames*—inordinate thirst for gold.

During this period of unrest, business men feared that Government control might go too far. It is generally admitted that public monopoly, such as a railway and a utility corporation, should in the public interest be strongly held, and when so controlled it becomes unnecessary to advocate Government ownership. It is plain that the situation called for one alternative or the other. Of the two evils we have chosen the least, and the Government commission plan now in general operation throughout the country is being tried.

Individual and corporate business enterprises are, however, quite distinct from public monopolies, and they should be treated as such. In a general way we will agree that the less Government control is put upon business the more readily will it flourish; that legislative interference tends to impede the movement toward concentration and represents a one-sided economic disarmament. Government operation does not leave adequate scope for that personal initiative which is indispensable for general economic progress, nor for the needful spirit of enterprise on the part of the managers. It tends to weaken the motive of private gain, the most powerful stimulus of all economic progress. Moreover, it would make impossible the free development of the enterprising, efficient and far-sighted personalities to whose energetic and untrammeled initiative we owe so much.

We do about twenty thousand millions of dollars' worth of business in manufactured products in our home trade, and only about one thousand millions in foreign countries. Of all our manufactured exports, about one-third is represented by mineral oil, iron and steel and agricultural machinery, thus indicating that export trade in American manufactured products is the most fertile and encouraging field which is now open for cultivation and expansion.

THE LAW NOT CLEAR ENOUGH.

By JOHN D. RYAN, President Amalgamated Copper Co.

I quite agree with Mr. Saunders in what he tells us that many able lawyers say that the provisions of the anti-trust laws do not apply to export trade. I will say to you that there is a wide difference of opinion. I have studied the question of the application of this law to export business and have talked with a great many men, and while I do not think there ought to be any restraint on export trade, I think the law is not clear enough for me to proceed and take it for granted that there is not any. There ought to be some constructive legislation. There ought to be some permissive legislation. There ought to be some right to a business man to do things, and not a constant prohibition.

I think you will all agree with me that if we lose the present opportunity for foreign export trade it will never come to us again. We are working for our country. We are working for ourselves. We are working to furnish employment to thousands of men who are now out of employment, and we should take advantage of our opportunities.

TO LEARN OF FOREIGN NEEDS.

By W. C. DOWNS, United States Commercial Attache for Australasia.

There is at the present time no possible excuse for an American manufacturer, no matter how small, not being able to ascertain whether his goods are suitable for any particular foreign market.

First and foremost, he has at his disposal the vast amount of information that the United States Government has been collecting and compiling for many years in regard to foreign trade, and the services of the organization which it has perfected for the collection, compilation and dissemination of further information that shall in every way be reliable and up to date.

A second source of information is that of the various organizations for the promotion of foreign trade, com-

posed largely of merchants already engaged in such trade, who are always ready to give new members the benefit of their knowledge acquired through experience, and who can furnish very often valuable information in regard to the possible demand for articles even if they are not in their own particular line.

Export trade journals should also be included in a catalogue of the available sources of information regarding foreign demand.

A fourth arm of service has recently entered the field to assist the merchant in his campaign to develop export trade, namely, the railroads.

A fifth form of assistance is also now being provided by such of our national banks as have established branches in foreign countries under the new banking law.

A sixth valuable assistance to the smaller manufacturer or merchant who contemplates export trade, which should not be overlooked, is the large manufacturer or corporation who has branch offices or agencies abroad.

I have purposely left to the last one of the most prolific sources of information of the manufacturer as to the suitability of his product for any particular foreign market, namely, the export commission houses. They have the advantage of long years of experience and an accumulated fund of knowledge of the markets in which they operate. In the principal cities of those markets they have competent agents or representatives whose duty it is to promote the sale of any and every class of American products and merchandise.

PROGRESSIVE NEIGHBORS HAVE SET EXAMPLE.

By C. D. MITCHELL, President Chattanooga Plow Co.

I have recently received more than 50 letters from the "smaller" manufacturers in the South—some with limited experience in exporting. They cluster their problems and troubles around the handicaps suggested in the foregoing brief. Classified, they are as follows:

1st. Ignorance of countries, peoples and requirements.

2d. Lines too small to justify them singly to bear the expense of exploiting their products.

3d. Lack of interest because of lack of vision.

It is clear that we will not now or ever find our rightful place as a great nation or world power until we take the same interest and adopt at least some of the same methods of other lands, which our progressive neighbors have done. Their success is a guaranty of our success.

To do this we must interest and have the co-operation of the smaller manufacturers and merchants, by enabling them to meet the prices of their larger home rivals and the competition of foreign producers.

It can only be done by protected combinations, adequate and fair shipping facilities, and by friendly relations and financial connections with "our neighbors" equal to and commensurate with our present national opportunity.

AMERICA'S COMMERCIAL OPPORTUNITY.

By JAMES A. FARRELL, President, United States Steel Corporation.

Whatever may be the political outcome of the European war, it is apparent that each of the belligerents now engaged will find it essential to vigorously pursue its foreign trade to repair the ravages to its domestic commerce, to provide labor to soldiers returned to peaceful pursuits and to ameliorate the burden of taxation.

Diplomacy of the future, as of the past, will be intimately concerned with commercial aggrandizement, and it is of vital consequence to America's future position that advantage be taken of the present opportunity to exploit the products of American invention, enterprise, ingenuity and quality to establish a firm foothold in the markets of the world which neither political effort, tariff discrimination or low prices can successfully assail.

There is no question of greater importance to the welfare of American industrial enterprise and labor than stimulation of commerce abroad, since extensive oversea trade tends, under normal conditions, to stabilize domestic industry by insuring to manufacturers and producers a wider sphere of activity.

Foreign trade expansion, while a matter of individual enterprise, requires co-operation in its development, and this was strikingly demonstrated in the formation of the gold pool by banks in all sections of the country to relieve foreign exchange, and other measures to relieve abnormal conditions during the first few months of the war, and it was these forms of governmental and business co-operation which extricated the business of the country from serious embarrassment.

The United States has a long path to travel before it becomes a world trading nation in the fullest sense of the word. Nevertheless, we do possess the resources, the energies and, at last, but not least, the public and governmental inclination to push forward.

CO-OPERATIVE FOREIGN SELLING.

By H. C. LEWIS, National Paper & Type Co., New York.

It is practically imposible for the small American manufacturer to develop an export business for himself. It is almost equally difficult for the large manufacturer to develop an export business if his goods are in comparatively small demand in any one market. In both cases the expense of investigating markets and the selling of goods is too great.

It must be recognized that co-operation among American exporters may be highly advantageous in the present state of this phase of our commercial activities.

The basic results of co-operative work should be along the lines of increasing export possibilities for a considerable number of manufacturers and merchants by developing more highly their selling facilities, by a reduction in selling expenses and by showing a profit for the selling organization.

The basis of any successful co-operative organization must be its control of an individual or a small coterie of individuals who are interested in creating and developing a profitable organization, rather than in making all that is possible from immediate sales.

The difficulties of co-operative work are serious unless the question is approached in a broad-minded, far-seeing spirit. We should be interested not in the orders of today, but in future permanent business.

EDUCATION FOR FOREIGN TRADE.

By PROF. EDWIN F. GAY, of Harvard University.

American business men, looking abroad, are already aware of the importance of sending out high-class representatives.

Rarely have American concerns undertaken to train in advance those who are to represent them in South America or in Asia.

It is not to be forgotten that the field marshals who have led American enterprise to its present position in the world have been for the most part promoted from the ranks, not from the cadets of the academy. Indeed, it will always be essential that the young business man must undergo a practical apprenticeship. Nowhere else but in actual business can he so thoroughly learn the routine, the customs of his particular trade and the methods of the concern he serves.

But it is in response to a demand from business itself, conscious of the growing complexities of modern business operations and of the need for trained intelligence, that American colleges from the Atlantic coast to the Pacific are organizing courses and establishing schools of business administration.

To win wider markets and to hold them permanently we need the assistance and the substantial interest of young Americans. Our business men will see to it that the demand for their aid is made effective. They will respond, and the colleges can be relied upon to do their share in training them. The work is not to be done in a day, but it can be well done if it is well planned.

Building Up Blackwell.

Commercial Club,
Blackwell, Okla., January 18.

Editor Manufacturers Record:

Blackwell could, if necessary, live almost entirely on local manufactures and agricultural products that are grown near here.

The Commercial Club long since realized that communities and cities do not grow, but must be built, and this truth is being brought to notice very forcibly lately by the development this city is making under the "build" plan.

Possibly the greatest one thing that has been done toward the local support of industries here is a "See Blackwell First" movement inaugurated by B. W. Jones, secretary of the Commercial Club. Because the people of this city, as is the case in most communities, knew little of the real part of the factories and other manufacturing concerns here, Mr. Jones insisted that every person in the city should make himself acquainted with all local conditions. "Every day strangers come to town, some of them on pleasure trips and some with a possible idea of locating, being drawn here by reports of this city's desirable location and municipal success. They rightfully expect everyone they meet to be very much enthused over present business and future prospects. They make inquiry of some of the business men or old residents, but the inquiry brings out the fact that the average Blackwellite knows very little about the industries of the city. The questions, How many men do the glass plants work? How many jars does the big plant turn out in 24 hours? What's the capacity of the combined brick plants? What are the prospects in the oil and gas field? bring only the answer, 'I really couldn't say.' That is what we need to improve," said Mr. Jones when he started the plan. The result of it has been that every business man has made himself an information bureau, and many of the vicinity's opportunities that have heretofore been unrecognized are proving big assets to its development. The people are beginning to see the possibilities in the movement, and the encouragement that comes to them from the continual boosting prompts them to keep everything connected with their own business going at a high speed. It's a new plan, but it's working wonders.

Blackwell is in the heart of the greatest of the Mid-Continent oil and gas fields, and devlopment along that line is even yet in its infancy. The gas field surrounding this city is only about three years old, and wells are being brought in every few days that have a flow of from 7,000,000 to 40,000,000 cubic feet. The rock pressure is also great. It is an ideal location for all manufacturing concerns using gas extensively. The glass plants and brick concerns here are in a good distributing position, and their freight rate is at a minimum. There is an extensive amount of blue brick shale on three sides of the city.

Men who have compared the farm land surrounding this city with other older land in the East-Central States claim that it is destined to be the greatest in the United States. Twenty years ago this country was Indian reservation, and last year the average wheat yield in Kay county was 32 bushels per acre.

The people who live here believe this section of the country has a great future, and every plan and seemingly every man's thought is to develop it as much as possible. R. B. LOVETT, Assistant Secretary.

Orders and Inquiries for Cars.

Southern Car Co.,
High Point, N. C., January 23.

Editor Manufacturers Record:

We have during the past week received an order for six cars for the Southern Public Utilities Co. at Charlotte, N. C., and have received an inquiry from the Interborough Rapid Transit Co. for 478 subway cars, which it proposes to purchase on the 28th of January.

While many of the manufacturing companies experienced an unprosperous year in 1914, still we are pleased to state that 1914 has been our biggest year in business. In fact, our sales overran the total sales for 1912 and 1913 about $20,000, and from all indications this year will be a prosperous year for manufacturers of our product. At present inquiries are not very numerous, but from the information we have, early in the spring there will be many railway companies placing orders for new equipment. We are now keeping our shops busy completing an order for the New Orleans Railway & Light Co., New Orleans, La., and we anticipate finishing this order about March 1, 1915. By this time we hope to have plenty of orders to keep us busy throughout the year. W. A. COPELAND, Secretary.

Virginia Ice Makers.

The Virginia Ice Manufacturers' Association has been organized with M. C. Elliott of Charlottesville, president; E. H. Stumpf of Richmond and E. C. Ivey of Lynchburg, vice-presidents; Harry Hammond of Alexandria, secretary and treasurer, and Floyd Tyler of Richmond, W. F. Carter, Jr., of Crozet, F. W. Sanford of Newport News, Charles B. Heinemann of Petersburg and C. M. Griggs of Roanoke, executive committee.

Successful Packing Plant in Georgia

By JOHN W. GREER.

The Moultrie Packing Plant is the result of an effort to break the all-cotton system in this part of the South.

Through the Moultrie Chamber of Commerce the citizens of the town got the idea that, in order to break this long-continued system, this cotton habit, they must make markets for products the farmers could sell for money, just as they do cotton.

The Moultrie merchants, bankers, newspaper and other business men had been advising the farmers for years to diversify their crops, just as the same classes have been advising the farmers in other sections of the South, and with the same results—the farmers did not diversify.

There was one inevitable reason for this disobedience to their advisors on the part of the farmers—they could not sell diversification. Cotton was the only product they could sell for money and be sure they could sell when they reached the market. Now and then one would break away from the established custom and make a surplus of some food product, and straighway he would have to haul it back home or dump it into the first stream he came to on the way, and therafter be laughed at by his neighbors. And the next year that farmer would not make enough of that product for his home use—the inevitable result where there is no market for the surplus. The man who lives simply within the law will eventually break the law. He who does just enough to hold his job will eventually lose it by doing too little. The farmer who tries to raise just enough for his home use and no more will very soon have to buy for his home use. It is the philosophy of life.

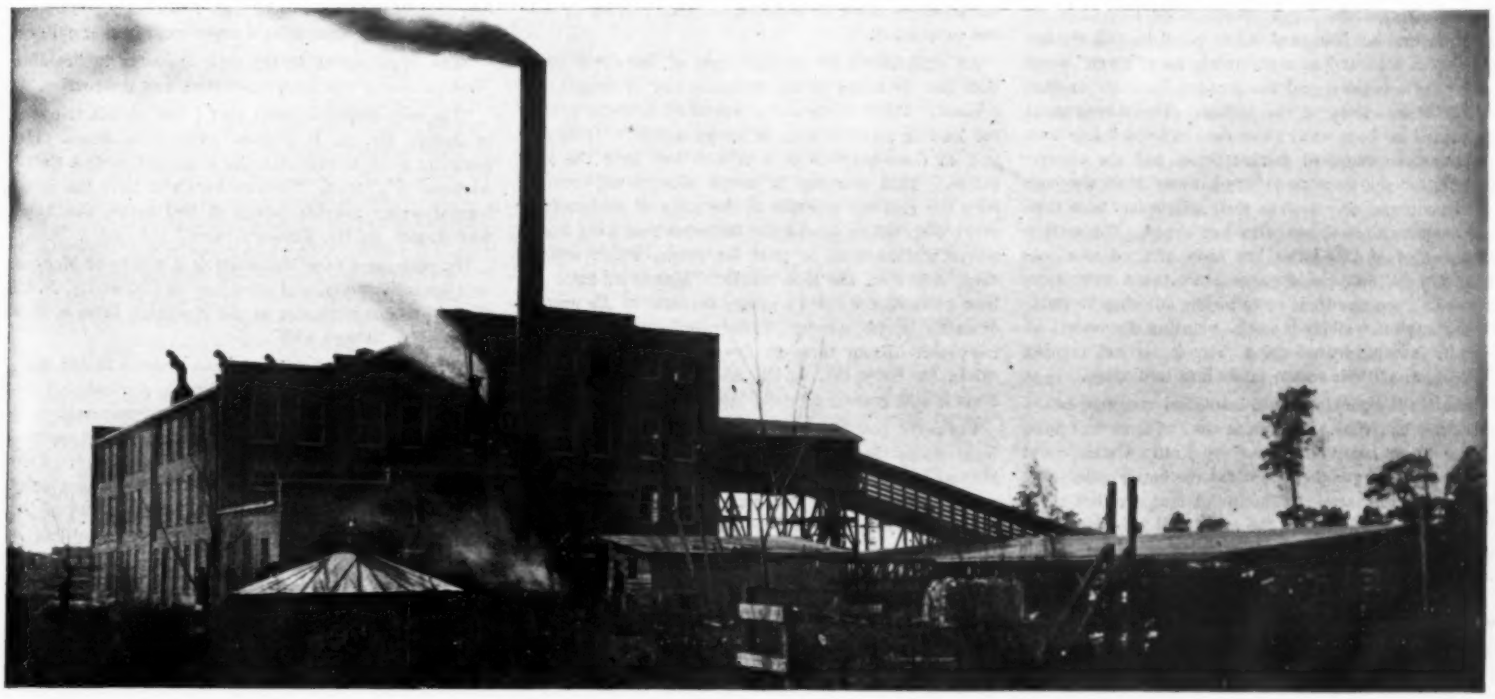
The Moultrie people discovered this fact. They learned another thing: That the farmers themselves could not make markets; that if markets for other products than cotton were to be made, the business men must make them. They also were assured that the Government could not make these markets; that the State could not do it, and that the people of New York and Chicago were not interested in making markets for the Colquitt county farmers, and that if markets were to be made, the business men of Moultrie, the county-seat of Colquitt county, would have to do it.

That was a logical deduction, and when it was arrived at the business men of Moultrie had a clear-cut proposition before them. Then the question arose, "Do we want to risk a quarter of a million dollars in an enterprise that is yet somewhat of an experiment in the South for the purpose of making a market for the farmers of Colquitt county?"

I am frank to state that I do not believe the cold business proposition alone would have pulled the enterprise through. The fact that Minnesota, Iowa, Kansas, Nebraska and other Western States had made good with the independent packing-house was a precedent for the West, but the South had made some failures in the packing-house business, and as a business enterprise there was hazard enough to make timid capital shrink and tremble. Without the human element injected into the effort I have my doubts about the successful promotion of the venture.

The human equation is an element in which Moultrie is strong. She is a new town, evolved from the pine forests which so recently abounded in this section, and whose products have builded quickly many thriving towns in Southern Georgia, Alabama and Northern Florida. Many of these towns have been founded by people from the Carolinas who were strongly religious, and Moultrie developed an element of altruism that prompted her people to do things for the brotherhood of man as well as for the profit therein. Perhaps even behind this there is an intuition that the brotherhood of man, after all, is good business.

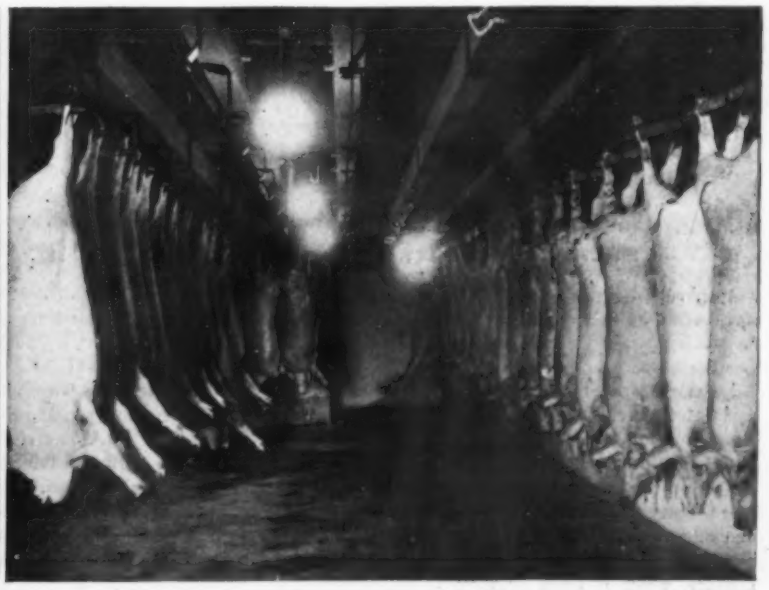
I do not claim that Moultrie, without a business eye, would have ventured $250,000 to help her farmer friends out of a losing game which they have been playing since the Civil War, a game in which they have been losing a cent and a half a pound, according to the best statistics. Very few farmers have kept books, and hardly one in five hundred knows just how much he has been losing on cotton, but the fact that 84 per cent. of the



PACKING-HOUSE AT MOULTRIE, GA., SHOWING STOCKYARDS, VIADUCT, ETC.



PARTLY FILLED BEEF COOLER, MOULTRIE PACKING-HOUSE.



ONE OF THE MOULTRIE PACKING-HOUSE HOG COOLERS.

cotton farms in the South are under mortgage is evidence that thousands already have and thousands more will have to turn loose unless there is a change, unless there is a break from the one-crop system.

Whether it were the fact that Minnesota paid off her mortgages in six years with stock, whether Moultrie business men saw the end of a sytem that was rapidly wrecking the farms around them, on which their business depended, or whether they felt that in doing something to strengthen those around them they were doing something to strengthen themselves, it was a master impulse that prompted the packing-house and a master stroke that wrought it to completion, and already, at the end of 30 days of operation, Moultrie has begun to see the bread she cast upon the waters return to her mightily multiplied.

The packing-house began operation on December 14, and from the day it opened it has killed its full storage capacity of hogs and as many cattle as a "green" force could handle besides, and the receipts for hogs to date are $2000 in excess of the killing. The management has turned no hogs away; everyone presented has been bought at the standard market price, and the encouragement for the farmers to break away from the one-crop system and add stock to their efforts has been even greater than the most sanguine had hoped. The section for a radius of 200 miles has been affected most enthusiastically, and the farmers have taken new hope, are reading the hundreds of editorials advising diversification, buying well-bred stock, planting thousands of acres in pasture, cross-fencing their farms and turning 50 per cent. of their cotton lands into feed crops.

Thus far the packing-house has killed very few cattle. It has not had time. The great rush of hogs was upon it, and these must be cleared up first. Cattle could wait, for the longer they were fed the better price they would bring the farmer. The indications are that there will be enough hogs to run the plant well into the spring and enough cattle to keep it busy through the spring and summer.

The people throughout the territory have been made to feel that it is their plant. Moultrie and Colquitt county merely furnished the money to make the experiment with. Every dollar of the capital was raised in the county, 70 per cent. from the town and 30 from the country, there being 70 farmers stockholders in the plant.

The manager, Mr. C. L. Brooks, is from Minnesota. He has successfully managed several plants, and is considered one of the best packing-house men in the country. Mr. W. C. Vereen, a banker and capitalist, is president and financial manager.

The plant is finding no trouble in marketing its product close at home, as all Georgia, Florida and Alabama are calling for Moultrie packing-house meat, which they know is raised at home and inspected by the Government. It is a new sensation in this part of the South.

Two conclusions are uppermost in my mind: The packing-house is a practical solution of the all-cotton system—the one-crop system, whatever it be. It is the practical way to bring about diversification. In the second place, markets for farm products must be made by the business men of every locality for the farmers of that locality. Governments cannot do it, people at a distance are not interested, and farmers, as a rule, do not know how.

BIG INCREASE IN LEATHER COST.

A Manifestation of Some of the Influences of an Era of High Prices.

Aptly embodying manifestations of some of the influences which have brought about an era of high prices in raw materials for many lines of industry is the amazing advance in the cost of the raw material used in the manufacture of pure oak-tanned leather, which is used principally for belting and sole-leather products. From an authoritative source the MANUFACTURERS RECORD learns that hides are now costing more than 23½ cents a pound, whereas 12 or 15 years ago not over 5 cents a pound was paid for the same grade, and that other material used in the process of tanning pure oak leather had advanced accordingly. Oak bark, for instance, which is being produced in ever-diminishing quantities, has advanced from $5 per cord to $13 per cord; freight rates have advanced, and in the last three or four years the cost of labor has advanced about 20 per cent.

Coincident with the present activity in the leather market brought about by the European situation, and of the decrease in the amount of hides imported since the beginning of the war, the raw material used in the manufacture of leather has steadily advanced. In 1904 the average price of the first three grades of Chicago packer hides for heavy native steers was 11.77 cents; for heavy Texas steers, 12.67 cents, and for light Texas steers, 10.77 cents, as compared with 18.35 cents, 18.02 cents and 17.75 cents, respectively, for the year 1913. Last year, beginning with the January quotation of 17.75 cents for heavy native steers, the price advanced month by month until it reached 22.90 cents a pound in December, the cost of all grades of hides from heavy native steers down to branded bulls increasing in similar proportion.

An explanation for the high cost of these raw materials can be found in the economic law of supply and demand. The receipts and slaughter of cattle in 1914 at the leading markets was, in round numbers, from one-half to three-quarters of a million less than the year before. This decrease in cattle slaughtered, coupled with the growing increase in the price of foodstuffs of every description, practically indicates that even higher prices will have to be paid for cattle, which will, in turn, reflect on the hide market. Moreover, there has been going on for years a steady decrease in the number of cattle in the country, while population has steadily increased. From three to five cents advance was received for hides last spring, and under existing conditions a still greater increase is anticipated.

Formerly country butchers and farmers supplied a large proportion of the hides produced in the United States, but of late years meat packers, especially the great packers of Chicago, practically control the hide output and are each year becoming more important as hide producers, supplying as they do not only the large cities, but also country towns, with fresh meat. This has tended rather to produce a better grade of hides for tanning purposes by reason of the fact that the packer hide is taken off in a skillful manner and more care is exercised in its curing, producing a more uniform grade of leather.

BEEF CATTLE INDUSTRY.

An Intelligent Businesslike Plan of Promoting It.

Mr. B. Frank Mebane, president of the Spray Water Power & Land Co. of Spray, N. C., who is interested in the plan of the Virginia-Carolina Cattle Association, designed to encourage livestock raising in the South, writes to the MANUFACTURERS RECORD:

"We are approaching this great question of intelligent evolution of the soil of the South, not from a selfish standpoint and not from the standpoint solely of selling cattle. There is no possibility of intelligent and scientific evolution of the soil without the development of the beef cattle industry, all of which is an impossibility with our Southern cotton planter unless there is some place to give him an ocular demonstration. It is impossible to visualize the concrete scheme of animal industry and development of raising the grasses indigenous to the different soils of the South by correspondence of personal description. We must have a place to show them."

One of the means adopted by the Virginia-Carolina Cattle Association is an offer to pay 10½ cents a pound for good middling cotton at Carolina mill points delivery and to furnish in payment registered Hereford bulls. R. W. Scott of the Melville farms, in Alamance county, recently visited the association's show at Spray, and in a letter to the Charlotte Observer gave his impressions as follows:

"I have seen the largest herd of registered Herefords that I have ever seen anywhere, and the size, style and finish of the cattle is second to none. I feel compensated for my trip in having the confirmation of my own ideas about raising hogs. I have seen a practical demonstration of raising hogs successfully with very little grain. While I have seen some of the best registered boars of the different breeds of hogs, I have also seen the value and the merit of cross-breeding sows for prolific mothers. The crossing of the different breeds and the injection of a little Tamworth has been done with great skill, making different crosses to suit the different sections of the country.

"Sheep culture is being done on a successful and profitable basis, and in an intensely interesting way to anyone who is interested or contemplates becoming interested in this business. I saw registered Hampshires, Shropshires, Dorsetts and Suffolks, and then the result of these registered bucks on Pender county scrub sheep.

"In going from these various tracts, which are laid out in 500 acres, one gets an ocular demonstration of grass culture and development. Seeing and walking over the different pastures, different grass and hay fields is a practical education to the farmers of the South.

"The corn field that I inspected was a distinct success. It is said to be five miles long and one mile wide. I was highly entertained in the success of the experiment this year, and expect to visit this field next year and see the result of the contemplated experiment in corn culture.

"The development of the mule industry in breeding Western mares was most interesting and instructive.

"The only disappointment that I had on this trip was in finding Mr. A. B. French away from home. His beautiful place is adjoining the Virginia-Carolina Cattle Association's farms. Visitors here will have the privilege of seeing another family of beef cattle, the Aberdeen-Angus, on Mr. French's farm."

Mr. Mebane writes Mr. Scott is a native of Mebane, in Alamance county, and after leaving University, N. C., served his apprenticeship at the Houghton farm in New York. Mr. Mebane adds:

"Mr. Scott occupies a prominent position in our State agricultural life, being engaged by the Agricultural Department to make visits to the county demonstrators in the State and to make addresses to farmers. It required just 10 years for me to get him to come here. Your paper has served the people well. It has done a great service to the South. You stand at the forks of the road now and can render service never dreamed of to the South Atlantic States."

On Issuing Bonds for Improvements.

J. S. Harris of Sidney Spitzer & Co., Toledo, O., writes to the MANUFACTURERS RECORD regarding the advisability of municipalities and counties in the West and Southwest issuing bonds at this time for municipal improvements:

"While there has been considerable improvement in the investment market, yet there are a great many undigested issues of bonds on the market, bought during the period of depression at very low figures, and until these bonds have been absorbed we would not recommend that the municipalities make any material improvements or issue bonds to any extent, because, while the market is fairly active at this time, yet if many issues of bonds were placed on the market it would tend to break prices, and with so many conditions hanging over the market on account of the wars abroad, dealers are feeling their way carefully. Prices during the last two years on bonds have been low, owing to the volume of bonds issued, and our suggestion to the municipalities would be that they go slow on their improvements until the bond market gets back to its normal condition."

Bearing on the same subject, Charles F. Cushman, manager of the municipal bond department of the New York Life Insurance Co., writes:

"I wish to congratulate you upon the excellence of the symposium on the subject 'Marketing Securities for Public Improvements,' appearing in your issue of January 21, and upon your illuminating editorial introduction thereto.

"It is interesting to note the unanimity of opinion among bond dealers as to the desirability of issuing bonds in serial form, the life of the bonds not to exceed the life of the improvement, and the advocacy of payment of interest and principal at an exchange center.

"Another feature of the utmost importance in the preparation of municipal bonds is to have the proceedings validated by a Superior Court or approved by the Attorney-General before the bonds are offered for sale. Such validation or approval certifies to the legality of the issue and forever estops possible litigation on the subject. The laws of Georgia, Oklahoma and Texas in this respect are excellent, and I understand that legislation is contemplated in South Carolina embracing this important provision."

"Geological Mystery" of Culebra Slides

By Courtenay De Kalb.

[Mr. De Kalb is a distinguished geologist and mining engineer, who has had unusual opportunities for studying geological conditions and engineering problems in Central America, Mexico and on the Pacific coast.—Ed. Manufacturers Record.]

"A geological mystery at Panama" is the polite phrase used by a number of newspapers in referring to the persistent "slides" that lessen the depth of water in the great canal through the Culebra cut, and make constant dredging necessary. The mystery, however, may be less geological than political. This may be said without taking a fling at any party or at any President. The canal was built at Panama because Theodore Roosevelt so willed it, and for no other reason. On the other hand, he is credited with having said that whether Panama were the best place or not, the name of Panama exerted an influence over the public mind that rendered it possible to arouse enthusiasm for a Panama Canal that could not be awakened for a Nicaragua Canal, and that it was a question of having a Panama Canal or no canal at all. As Mr. Roosevelt is still very much alive, he can correct me if I have misstated his attitude.

Since the initial decision to show the Frenchmen how easily Uncle Sam's boys would succeed where they had failed, William H. Taft has allowed himself to be apostrophized in the dedication of a well-known book on the Isthmian canal as the "chief builder of the Panama Canal." Later, President Wilson presides over the closing ceremonies of construction and the celebration of the achievement by two great expositions. Therefore, as between Progressives, old line Republicans and Democrats, honors are even.

If we have a mystery or a problem at Panama it were difficult to tell whether we should most blame Theodore Roosevelt, William H. Taft or President Wilson, or whether we should merely be ashamed of our psychologic characteristics as a people that made it necessary to build the Panama Canal or none at all.

The pathetic letters of Charles de Lesseps to his father, Ferdinand, detailing the hopeless struggle to keep back the slipping, swelling shales and sandstones of the Culebra slopes were widely quoted by the American press. The efforts of the French engineers to drain the moving mass of water-soaked rock by tunnels and other workings were well known and commented upon in this country. The late Senator Morgan of Alabama repeatedly cited these difficulties in his speeches in favor of a Nicaragua Canal. In numerous articles in various magazines, including the Manufacturers Record, I called attention to the serious nature of the Culebra slides, after my visit to the Isthmus at the end of the French regime, and my subsequent study of the situation led to accentuation of this danger in my later protest against the selection of the Panama route.

There is nothing to be gained, however, by attempting to fix responsibility for an error of this kind. The purpose was patriotic, and that justifies what was done. The thing now is to solve the problem. As the Baltimore Evening Sun wisely remarked in a recent editorial, "We have spent nearly half a billion dollars on the canal, and we cannot afford to abandon it, even if it should cost us half a billion more to overcome the trouble in the Culebra cut." That is the proper spirit for every true American in the face of a national difficulty.

The Panama Canal is a national necessity. The transcontinental railroads do not so regard it, but after 10 years' experience of the economic effect of the Isthmian waterway they would oppose any limitation of the use of that route by our commerce as earnestly as they would now combat an attempt to abandon the Sault Ste. Marie Canal, that has built up such an empire of industry in the middle North by offering cheap transportation for the iron ores which constitute the chief basis of American steel production. The heavy, bulky freights, which can afford to pay the least for carriage, are those which are fundamental in the expansion of manufacturing on which the growth of large centers of population depends. These bulky, low-class freights are relatively a burden to the railroads, and they will seek the cheaper water route, thereby stimulating development and making an enormously increased demand for goods of higher classification which the railroads can carry at a profit.

The problem of the Culebra slides must be solved, and men of all parties must co-operate to help find a sufficient remedy. It was argued by some that the alternating deposits of shale and sandstone which make up the Culebra beds would not involve movements of large masses because they lie so nearly horizontal. On the other hand, the extensive basin south and east of "Gold Hill" or Cerro Culebra, traps a large amount of water during the seasons of heavy precipitation, and this water finds its way down through the strata, following both bedding and fault planes, and finally escapes as springs along the line of the Culebra cut. Accordingly, the phenomenon is not as superficial as it has sometimes been represented. If it were purely local the difficulty would be greatly minimized. Whether there is a general movement of important mountain masses along fault planes was not clearly demonstrable. Opinions of geologists differed on this point. Very likely additional data concerning this matter has been obtained within the last two or three years. A man of such keen and comprehensive observation as Colonel Goethals cannot have failed to accumulate valuable information on so vital a question, but until authorized to do so he could not be expected to take the public into his confidence.

There is no doubt that the Culebra beds have been disturbed by a rather complicated system of faults, i. e., by fractures of great extent which may reach to considerable depths. The beds have been intruded by basic dikes of probable Miocene age, and it is known that the principal faults were formed after these volcanic intrusions. They may have been the result of readjustment of equilibrium after the disturbance caused by these injections of basalt. They may also have been occasioned, at least in part, by the uplift of the Isthmus as a whole, four successive elevations having been detected, the third of which took place with relative rapidity. Consequently there are abundant reasons to believe that the movements manifesting themselves today as slides may be connected with the fracturing produced in conjunction with the intrusion of dikes and with the regional uplifts. Furthermore, it is important to note that the dikes of basalt and pyroxene andesite which intruded the Culebra beds have been subject to profound alteration of their mineral constituents, and the alteration of igneous rocks on a large scale is invariably accompanied by changes of volume, either contraction or expansion, as the case may be, and this is often sufficient to induce movements in the adjacent formations. A consideration of all these facts leads to a surmise that the trouble may not be local, but from this it does not follow that the tendency to sliding and swelling or "squeezing" of the strata may not be overcome after the causes have been fully ascertained.

There are able geologists and engineers in America, experienced in working out such problems, who could effectively co-operate with those upon whom rests the responsibility for the maintenance of the Panama Canal in readiness for traffic. In any case, frank publicity of all data now available and of the results of further study of the situation would seem to be in order. There is no need for making a political mystery of the Culebra slides. The psychology of the American people is not such that they will refuse to aid with money and generous approval in overcoming an obstacle that imperils the greatest single engineering work this country has ever undertaken. "Success" is the word that Americans insist shall be written after every enterprise in which they embark.

Phosphate and the European War

By C. G. Memminger of Lakeland, Fla.

At the outbreak of the European war, while the prices of phosphate were extremely low, practically all of the mines were running close to their maximum capacity, and the outlook for the consumption of phosphate, both in the United States and abroad, was encouraging.

Immediately upon the declaration of war it became apparent that the export of phosphate would be heavily decreased, if not stopped. Later events have proven the correctness of this view, and at the present writing the export of phosphate has practically come to a standstill.

In the Florida hard-rock district the entire product is exported, largely to Germany. All these mines ceased operations shortly after war was declared, and this industry is now totally suspended. In the land-pebble district practically all of the mines engaged in exporting phosphate ceased operations, only those mines continuing to produce which were supplying the domestic market.

The cotton-producing States of the South are the largest consumers of superphosphate, and the disastrous condition as regards the sale of the cotton crop has caused a material suspension of the use of fertilizers. On good authority it is estimated that not over 35 to 40 per cent. of the 1914 tonnage of fertilizer will be used during the current season.

The Southern agriculturists do not appear to realize sufficiently the importance of diversified crops. Were they to use fertilizer intelligently in connection with the growing of grain and other food products, the present condition as to surplus of cotton would quickly right itself. No doubt it will take many years to bring about this much-desired result; in the meantime, the superphosphate industry is suffering from the ill-considered action of the cotton producers and politicians in urging the retention of the present crop, to obtain absolutely fictitious prices under existing conditions. This has brought about a status of affairs wherein the notes due for fertilizer are not being paid, and naturally, under such conditions, the manufacturers of superphosphate decline to supply fertilizer for a new crop.

This great decrease has been brought about in the domestic consumption of phosphate in the Southern States, and the owners of mines supplying this material have reduced their output in consequence.

The superphosphate manufacturers who are operating in the Northern and Central Western States may look forward to an extremely profitable season, with a heavy consumption of superphosphate, as it is naturally greatly to the interest of the farmers of these sections to increase their yield of wheat and other food crops at the existing high prices.

The consumption, however, in these States is relatively small when compared to that in the cotton-growing Southern States, and the curtailment of the use of superphosphate in these Southern States, together with the practical cessation of foreign shipment, has left the phosphate mines with an extremely limited market for their product. The majority of the mines have practically shut down, or are operating on an extremely limited scale, only sufficiently to maintain their organization and meet the restricted domestic demand.

There has been considerable comment made by various papers of a Washington dispatch to the New York Journal of Commerce, wherein the Government officials at Washington appear to be under the impression that a way has been found of shipping phosphate abroad as ballast under cotton, and the idea in question seems to be brought forward as a new and original one.

If the Government officials are correctly quoted, they show a total ignorance as to the conditions surrounding the foreign shipment of phosphate. As a matter of fact, for many years past the bulk of phosphate shipped abroad has been carried in vessels in the form of ballast, so to speak; the phosphate has been loaded into the lower holds of the vessel, and the balance of the ship's cargo filled out with cotton. Probably 90 per cent. of the vessels loading phosphate at Tampa, Savannah, Brunswick and Fernandina carry phosphate in their holds, the balance of the cargoes being cotton.

This is an established custom of the trade, and well known to all shippers and exporters of phosphate; consequently, to bring same forward as a new and original idea is manifestly absurd.

Shipments to Germany can only be made in neutral vessels; the supply of these vessels is extremely limited; in consequence, existing freight rates are exceed-

ingly high. In view of the lack of supply of vessels, and the high freight rates in consequence, movement of cotton to Germany has been limited. As a matter of fact, only within the last 30 days has cotton been exported to Germany. It is well known to those engaged in the production of phosphate that there is a demand in Germany at the present time for this material; but with the limited supply of vessels and excessive freight rates it is difficult, and, in fact, impracticable at present, to ship phosphate under cotton to that country.

Those engaged in the mining of phosphate would only too gladly avail themselves of any opportunity to resume foreign shipments, and of necessity are keeping in close touch with the situation. Should any opportunity arise for resumption of foreign business, same unquestionably would be immediately taken up.

The ideas as brought forward by the Government officials in connection with this matter are neither new nor original, and have no value under existing circumstances; nor can they aid or ameliorate the present unsatisfactory condition as regards foreign shipments of phosphate.

Recent advices from abroad indicate that there is practically no change in conditions; no business is possible, as freight rates are practically prohibitory, shipowners preferring cargoes of grain, cotton, etc., on which it is possible to pay the existing high freight rates. It is, therefore, manifestly certain there will be no resumption of the export phosphate trade until the war terminates.

A BELT LINE FOR INDUSTRIES.

Progress on Building Up a Manufacturing Suburb of Charleston.

North Charleston Corporation.
Charleston, S. C., January 23.

Editor Manufacturers Record:

The North Charleston Corporation has expended upon its property, consisting of 150 acres of land, about $100,000. This has been expended in preliminary surveys, then drainage, then laying out the property, clearing up and grading avenues, surfacing some of these, paving some sidewalks, introducing water supply and sewerage, laying out and planting parks, etc. All of this work was done under the charge of engineers and landscape architects. In addition to this, the North Charleston Development Co. has constructed 12 houses, and we have built a schoolhouse, which opened last October with 25 scholars.

On the water-front of this property, where the river is deep and a half-mile wide, there is now located the Burton Lumber Co., cost of buildings and equipments, $250,000; the Oakdene Compress & Warehouse Co., cost of wharves and compresses, $200,000; the Texas Oil Co., cost of tanks, buildings, etc., $250,000, and Read Phosphate Co., cost of plant, $150,000. There is now building the General Asbestos & Rubber Co., textile factory, at a cost of $175,000. The Atlantic Coast Line has expended $50,000 in extending its line down through the property to the water-front. The Carolina, Atlantic & Western road, a branch of the Seaboard Railroad, has expended $75,000 in running its main line through the property and constructing a very handsome little masonry station at a cost of about $10,000. The Charleston Consolidated Street Railway Co. is extending its street-car, power and light lines two miles right into the heart of the development. You will note, therefore, that the industries there and in the course of construction represent, exclusive of the land, nearly $1,500,000.

By the way, we have just agreed with the three railway systems to put in a belt line connecting the yards of each of the systems with all factories which may be constructed and all industries on the water-front. The formal agreements to this effect are now being drawn up.

North Charleston is an era of about 2500 acres, of which the Corporation itself owns about 1500 acres. The balance is owned by other parties.

R. G. Rhett, President.

The January issue of The Resources of Tennessee, published quarterly by the State Geological Survey, contains articles on the operation of the hydro-electric system of the State gullied lands and their reclamation, and the white phosphates of Tennessee.

Reasons Other Than War for Present Depression.

Long-Bell Lumber Co.,
Kansas City, Mo., January 22.

Editor Manufacturers Record:

I have read carefully what Mr. G. E. Reynolds, general manager of the Reynolds Bros. Lumber Co., has to say with reference to the tariff, and while I am inclined to believe that the bill in question is not for the best interests of our country as a whole, yet because of the war coming on so soon after the passage of this bill. I do not believe we have had sufficient time to test it thoroughly, and hence I could not at this time pronounce it unqualifiedly as an unwise measure. I do feel sure, however, that there are two or three important things aside from the war having to do with the present depression of business throughout this country.

First—The prosperity of our railroads is an absolute necessity in order to the general prosperity of our people, for no great industry like this can suffer without affecting practically our entire people, and in consequence we should deal with our railroad interests with a great deal more liberality than has been true during the last several years.

Second—The passing of laws denying the rights of co-operation on the part of our great business industries, and the prosecution, and I might say persecution, in many instances, of such industries, has made capital extremely timid, and has prevented its investment, thereby curtailing many operations that otherwise would have prevailed, giving employment to labor, the extension of capital, etc.

To my mind, in the absence of all other objectionable features, even the tariff, if these two troubles were removed, we would have, in spite of the war, reasonably good times in this country, and in the absence of the war, good, wholesome, healthy prosperity.

R. A. Long, President.

"Prosperity Has Turned the Corner."

President J. T. Palmatary, Cottrell Saddlery Co., Richmond, Va., writes to the Manufacturers Record:

"Conditions are improving right along. In fact, as we see it, prosperity has already turned the corner, and if you do not look out it is liable to run over you, notwithstanding some of the cold-feet brigade, give-up-the-ship navy, pessimistic army, bench-warmer guards, and the country-is-going-to-the-devil crowd say otherwise. We have had our men on the road continually since the war started, and we are now beginning to see results."

Opinions That Better Times Are Ahead.

President F. H. McWare of the Lynchburg Foundry Co., Lynchburg, Va., writes to the Manufacturers Record:

"We have started up our plants after our usual holiday shut-down for repairs. It is our belief that business conditions are gradually improving, and whilst we only have orders ahead for several weeks' work, we are of the opinion that better times are ahead, and think we will be able to continue operations on the present basis."

A Kentucky Asphalt Company.

To develop asphalt property in Edmonson county, Kentucky, is the purpose of the Kentucky Asphalt Co. of Louisville. This corporation will be organized with a capital stock of $500,000 by A. V. Hageman of Lorain, O.; J. B. Coffenbury, F. C. Mills, Arthur Cobb and M. Feld, all of Cleveland, O.

For Better Mules in Tennessee.

The Nashville, Chattanooga & St. Louis Railway, through the industrial, agricultural and immigration division of its traffic department, announces the establishment, on the West Tennessee Experiment Station premises, near Jackson, of a Percheron breeding stud to be known as the Nashville, Chattanooga & St. Louis Railway Percheron Foundation Stud. A number of young registered Percheron mares and a registered stallion have been purchased and placed in the stud, and their services are now available to the public. A similar enterprise has been established at the East Tennessee Experiment Station by the Holston National Bank of Knoxville. The ultimate aim of these institutions is to encourage and foster the production of larger mules and horses in the State. Heretofore Tennessee's large mules have come from other States as weanlings and yearlings; but these breeding establishments will result in supplying the demand for large horses and mules in the State from Tennessee soil.

Saner-Ragley Lumber Co.

About March 1 the Saner-Ragley Lumber Co. will begin operating its plant, now under construction at Cameron, Tex., the daily capacity to be 500,000 feet of lumber and 200 men to be employed. This will be the capacity without the gang saw, which will be added later. The sawmill proper is 238x52 feet, with a timber dock 250x32 feet and a sorting shed 468x38 feet, all of frame construction. The planing mill is 128x84 feet, of frame, with 48x21-foot steel-construction engine-house. The sawmill machinery is being furnished by the McDonough Manufacturing Co., Eau Claire, Wis., the cost being about $28,000. Other equipment includes a 24x20 Houston, Stanwood & Gamble twin engine, four 84x18 Walsh & Weidner boilers, with marine settings, etc. Ed. Long, engineer, has general supervision of the entire plant.

A $500,000 Paper Mill.

Construction is progressing on the Big Island (Va.) plant of the Bedford Pulp & Paper Co., Richmond, Va. The buildings are 900 feet long by 200 feet wide, and constructed as near fireproof as possible, the John T. Wilson Company of Richmond being the contractor. These structures and the machinery will represent an investment of about $500,000, the daily capacity to be 70 tons of wrapping paper and specialties, and about 250 men to be employed. H. S. Ferguson of New York is the construction engineer in charge of building the plant.

National Lime Manufacturers.

The annual meeting of the National Lime Manufacturers' Association will be held February 3-4 at Washington, D. C. The officers are W. E. Carson, Riverton, Va., president; Martin Deeley, Lee, Mass.; J. F. Pollock, Kansas City, Mo., and Bernard L. McNulty, Anniston, Ala., vice-presidents; Fred K. Irvine, Chicago, secretary; C. W. S. Cobb, St. Louis, Mo., treasurer, and Charles Warner, Wilmington, Del.; Lawrence Hitchcock, Cleveland, O., and H. S. Gray, Louisville, Ky., with the president, executive committee.

Planning a $500,000 Company.

The organization of a $500,000 company is planned for building a cotton mill of about 25,000 spindles, with accompanying looms, etc., at either Johnson City or Bristol, Tenn. It is proposed to use electric power from the transmission system of the Eastern Electric Co. of Johnson City. Dover Little, superintendent of the Republic Cotton Mills, Great Falls, S. C.; Stanyarne Little of Johnson City, architect; B. Calvert of Spartanburg, S. C., and asociates are planning this enterprise.

The Board of Trade of Palatka, Fla., has elected Ed. M. Earnest, president; H. O. Hamm and Henry Hutchinson, Sr., vice-presidents, and J. H. Millican, Walter Tilghman, members of the board of governors to serve with Howell A. Davis, F. D. Wattles, H. M. de Montmollin and Warner T. Hamm. The secretary of the board is Moses Folsom.

The Board of Commerce of Knoxville, Tenn., has published in convenient pamphlet form the annual reports of its board of directors and standing committees for 1914, together with a list of its members, classified alphabetically, calling to their espective businesses.

CO-OPERATION AND ACTIVE INTEREST.

Influences in the Development of Carolina Sandhill Secton.

[Special Correspondence Manufacturers Record.]

Southern Pines, N. C., January 23.

It's a hard matter to pick any one place in the South and say it meets all the requirements that are necessary for complete success. It may be stated as a certainty, however, that no locality in the whole South can surpass the beautiful (I use the word advisedly and in its broadest sense) spirit of co-operation and single-mindedness that is shown by the people of this Sandhill section of North Carolina in their efforts to promote the happiness and business ventures of the residents of the four counties composing the so-called Sandhill region. Millionaires and farmers of modest means are contributing without stint their time and money with an "all-pull-together" harmony that I have never seen duplicated.

The other night a meeting was suddenly called at Carthage by a member of a Board of Trade (one of a number of branches into which the district is divided—their organization is unique in this as in other ways) to discuss some not specially important matter connected with their development work. About twenty-five or so were notified, and the man who did the "notifying," I understood, was not an official, but merely one of the interested members. At any rate, he asked these business men and farmers scattered around the county to come to this meeting, as he had a subject of interest to discuss.

Whether he phoned the message or used the mails I don't know, but the call was sudden, and entirely unexpected. The night was stormy and the rain blowing in sheets, but here's the vital part: Twenty men came to that meeting, and only three lived in Carthage, where the meeting was held. One man drove 25 miles through the storm, another 18 miles, and others six and eight, and so on. The roads were not particularly bad, because these sand-clay roads, of which there are 1200 miles hereabouts, can take an enormous amount of water and be nearly dry in two or three hours, but which of us would have turned out a night like that and drive either 6 or 25 miles to attend a Board of Trade meeting? It's this kind of spirit that is making this place a garden spot and is claiming the attention and admiration of men from all parts of the country who are coming here in increasing numbers to make their homes.

Men of large interests who come here to play golf or to store up renewed nerve force for the daily battle in the business world comment on this inspiring way of doing things. Of course, the large landowner or the big factory or the storekeeper serving a constantly-growing area benefits by this sort of thing, and it is expected that they should, but—and this will surprise you—how about the farmer who is asked for a strip of his land needed to widen a road or straighten a curve? It's the rule around here for him to donate it gladly, and without asking any abatement in the taxes which are assessed for the road improvement. Can you beat it? There are lots of places in the South which have soil that will raise anything and climate that is almost heavenly, but are the people who should feel the responsibility for the development of these communities pulling together as they should and sacrificing something of time and money and comfort to make the thing a success? I didn't mean to preach a sermon, but there's a lesson here for all of us if we care to learn it.

FRANK GOULD.

Nick-a-Jack Hosiery Mills, Chattanooga, Tenn., has ordered an equipment of machinery, including the electric power drive, for a daily capacity of 50 dozen pairs of silk hosiery. This output will be doubled in 90 days. The company's organization with $30,000 capital stock and other details were lately stated. W. C. Kyle is president and general manager.

A report from Brunswick, Ga., says that the Seaboard Air Line, in connection with the Atlanta, Birmingham & Atlantic Railway, has established a regular service into that port, connection being made at Thalman, 19 miles from Brunswick.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

CHARLESTON COAL TERMINAL.

Southern Railway Will Enlarge Track Facilities to Increase Tonnage.

The Southern Railway Co. will begin construction on February 1 upon some important additions to its yards at Spartanburg, S. C., and also upon the extension of several passing tracks between that place and Charleston, S. C., this work to be done with reference to the company's modern export coal terminal now being completed at the latter port, and which it is expected will be finished by May 1. It is anticipated that there will be a considerable increase in the volume of coal traffic from the fields of Southwestern Virginia and in Tennessee, causing longer and more frequent trains. The track improvements are to be ready in season for the opening of the terminal.

There will be two additional receiving tracks built at Spartanburg Junction classification yard and two at East Spartanburg. The extension of passing tracks will be made at Carlisle, Alston, Herbert, Riley and Fort Motte. These extensions will make possible the handling through from Spartanburg to Charleston the maximum tonnage of the locomotives now employed, pusher service being provided from Kingville to Riley, 17 miles.

It is stated that, although very little work of this nature is being undertaken at present on account of decreased revenues resulting from the general business depression, the Southern Railway decided to make these particular improvements so as it would be able to extend to the coal mine operators on its lines the fullest advantages of the Charleston export terminal as soon as it is ready for use.

Dallas Union Station Progress.

Considerable progress has been made toward the erection of the new Union Station at Dallas, Tex. The foundation and the basement walls are complete and ready for the superstructure of steel, brick and granite. It will be finished outside with a rough white enameled brick, with terra-cotta trimmings, the first story, however, being of granite.

The main entrance of the new terminals will be on Houston street, between Young and Wood streets. Adjacent will be extensive railroad yards, the site of which is now being prepared by filling in with large quantities of earth taken from a point in the Trinity River bottom lands a mile away and conveyed in cars to the place where needed. This filling, too, is to make the level of the yards above the record high-water mark of the river and even with the bed of Commerce street. This, it is said, will make the property safe from floods. From 750,000 to 800,000 cubic yards of material thus have to be moved for the improvement, which will be provided with an extensive drainage system.

Tracks for the station will include 10 depot tracks, three express tracks, three tracks for parking special cars, two through freight tracks, a switch lead track and a huge Y, sufficiently large to handle a locomotive and eight passenger cars. There will be three signal towers and interlocking apparatus for the signals and the switches. More than 100 passenger trains have to be handled every day. Altogether there will be about 18 miles of terminal tracks. Two viaducts, one for street cars and the other for general highway traffic, will be built over the yards to connect the business section of Dallas with the residence section of Oak Cliff. Eight railroads will use the terminal.

Interlocking Signal Installation.

Construction of an improved interlocking signal plant at Empire, Ga., has been started by the Southern Railway. At this point the Atlanta division used by the company's fast through trains between the West and Florida crosses the line of the Wrightsville & Tennille Railroad, and the new signals will practically remove the possibility of collisions there, besides facilitating operation, for when it is finished trains will no longer be obliged to stop at the crossing in order to be assured of safety.

To operate the signals a mechanical interlocking machine will be set up in the depot at the crossing, and by means of this the home and distant signals as well as derailing mechanism will be controlled. The signals are to be of the upper quadrant type, similar to those employed at Helena, Ga., where they were recently installed to protect the intersection of the Southern Railway and the Seaboard Air Line. Two other like plants were also put in lately at the Southern's crossings of the Central of Georgia Railway near Rome, Ga. Furthermore, the company has placed electric automatic block signals on the double-tracked line between Chattanooga and Ooltewah, Tenn., and between Atlanta and Austell, Ga., while a telephone block system has been installed between Chattanooga, Tenn., and Jesup, Ga. All this work is in line with the policy of the system to extend the use of all possible safeguards for the handling of traffic.

Forces of the signal department of the railway are installing home and distant signals at Bessemer City, N. C., to protect the switches controlling the passing tracks of the lap siding type there, which are among the most important on the Charlotte division. A similar system was lately installed at Flat Rock, N. C., on the Asheville division, and for a like purpose.

To Build 43 Signal Towers.

Contract has been let by Southern Railway and work has been started on the installation of electric automatic block signals in connection with the double track now being built between Pelham and Denim, N. C., 36 miles.

Forty-three signal towers will be erected. The signals will be operated by alternating current supplied by substations at Danville and Greensboro and carried by a special transmission line. All stations and other railway buildings will be lighted by electricity.

The signals will be of the same type—upper quadrant, three-position—now in use on the double-track portions of the Washington-Atlanta route. In connection with signals now in service between Danville and Pelham and between Denim and Charlotte, the installation now undertaken will give a continuous stretch between Danville and Charlotte, 141.5 miles, and a total of 336.46 miles so protected of the 649 miles between Washington and Atlanta.

The force doing the work will have headquarters at Reidsville, N. C., where a storehouse for material has been established.

New Equipment, Etc.

Louisiana Railway & Navigation Co. has ordered 3 10-wheel locomotives of 75 tons each from the Baldwin Works, Philadelphia.

Missouri, Kansas & Texas Railway is reported in the market for 10 locomotives.

Southern Public Utilities Co., Charlotte, N. C., has ordered 6 passenger cars from the Southern Car Co. of High Point, N. C.

Santa Fe system may purchase 3000 cars.

San Angelo Street Car Co., San Angelo, Tex., is reported in the market this year for several second-hand single-truck closed cars.

Southern Pacific Company, it is reported, will order 30,000 tons of rails from the Tennessee Coal, Iron & Railroad Co., Birmingham.

Richmond, Fredericksburg & Potomac Railroad expects to order 6 steel passenger cars for delivery within the next few months.

St. Louis Southwestern Railway will probably purchase about 1200 tons of 75-pound rails.

Willis to Radford.

Plans for the construction of an electric railway from Willis, in Floyd county, to Radford, Va., 28 miles, are being considered by residents of that county and the Radford Board of Trade, and a meeting has been called

at Radford for the evening of January 30, when representatives of the Floyd county interests and the members of the board will be present. A letter from Radford says it is understood that Floyd county people will subscribe about $100,000 to the stock of a company which may be formed to build the road, and that they will pay for it in crossties and labor. Floyd county lies to the south of Montgomery county, in which Radford is situated; it is described as being rich in natural resources, but is without even a foot of railroad. A. J. McClung, secretary of the Radford Board of Trade, may be able to give further information concerning the plans.

Official Changes.

Larz A. Jones, vice-president and auditor, has been elected president and general manager of the New Orleans & Northeastern Railway to succeed D. D. Curran, who retires on January 31 to accept the presidency of the New Orleans Railway & Light Co., to which he was recently chosen. T. F. Steele, freight traffic manager, becomes vice-president. The new officers will take charge on February 1.

R. N. Hudson, general manager of the Louisville & Atlantic Railroad, according to a report from Louisville, Ky., has been elected president and general manager as well as a director of the Louisville, Henderson & St. Louis Railway.

John Wilson Brown, who has been president of the Maryland & Pennsylvania Railroad since 1894, has resigned, it is announced, and O. H. Nance of Kingsville, Tex., was elected to succeed him at the annual meeting January 26. Mr. Nance is treasurer and auditor of the St. Louis, Brownsville & Mexico Railroad. On February 1 he will assume his new duties, which will also include those of general manager. Mr. Brown continues to be a director of the company.

$750,000 for Terminals.

The Louisiana Railway & Navigation Co., of which William Edenborn, Hibernia Bank Building, New Orleans, is president, contemplates, according to reports from there, the construction of terminal facilities at Willow Landing, on the Mississippi River between Octavia and State streets, that will include warehouses, wharves and a grain elevator of 500,000 bushels capacity, all of which will demand an expenditure of about $750,000. Conferences have been held with the Dock Board and the Public Belt Railway Commission, and it is expected that the plans will be fulfilled. The company's river frontage is said to be 2100 feet. Efforts are being made to complete the negotiations with the object of having the improvements finished within a year.

Macon Union Station.

A contract has at last been signed between the Central of Georgia Railway and the city authorities of Macon, Ga., for the erection of the proposed new union station at the corner of 5th and Cherry streets. The railroad company says that it is anxious to begin construction, but so much preliminary work is to be done, such as property condemnation and other matters relating to the real estate involved, that it cannot now be said with certainty just when the construction forces will attack the site. The new gravity yards of the road are nearly finished, and it is hoped to put them in use February 1.

Contracts for Second Track.

The Southern Railway Co. has awarded contracts for construction of second track and revision of its main line between Orange and Charlottesville, Va., to the Morrow Construction Co. and C. W. Lane & Co., both of Atlanta, Ga., the former taking 15 miles from Orange to Burnley and the latter 13.7 miles from Burnley to Charlottesville. The estimated cost of this job is about $1,500,000. When it is finished this section of the railroad will be greatly improved both as to grades and curves, and there will then be double track where it is much needed.

Good Roads and Streets

SOUTHERN HIGHWAY ACTIVITIES.

Details of Week's Progress in Improvements in City and Country.

Further details of road and street undertakings and bond issues mentioned below are given under the headings Construction Department and New Securities, published elsewhere in this issue.

The MANUFACTURERS RECORD invites from its readers information about road and street work projected or under way, photographs of good roads and discussions of matters pertaining to the betterment of the highways of the South.

Bonds Voted.

Alexander, La.—Rapides Parish Road District No. 2 voted $100,000 bonds to construct roads.

Dickens, Tex.—Dickens county voted $12,000 bonds to construct portion of Fort Worth-Roswell highway.

Greenup county voted $200,000 bonds for road construction.

Wichita Falls, Tex.—City voted $45,000 bonds to pave streets.

Bonds to Be Voted.

Boydton, Va.—Mecklenburg county votes February 10 on $30,000 bonds to construct roads in Bluestone Road District.

Bryan, Tex.—Brazos county votes March 3 on $400,000 bonds to construct road.

Louisa, Ky.—Lawrence county votes March 15 on $100,000 bonds to construct roads.

Salem, Va.—Roanoke County Cave Spring District votes March 2 on $90,000 bonds to construct 22½ miles of roads.

Contracts Awarded.

Baltimore, Md.—State awarded $72,871.54 contract to pave roadway of Hanover street bridge and approaches.

Baltimore, Md.—State awarded $104,941.13 contract for road construction.

Belton, Tex.—Bell county awarded $97,800 contract to construct 40 miles of gravel roads in District No. 7.

Covington, La.—St. Tammany Parish Police Jury awarded $35,790 contracts to construct about 30 miles of road.

Corsicana, Tex.—Navarro county awarded $75,000 contract to construct 19 miles of roads in District No. 3.

Miami, Fla.—Walter E. Flanders estate awarded contract to construct one mile of rock-paved streets in suburb.

San Antonio, Tex.—Val Verde Irrigation Co. awarded contract to construct nine miles of graded and graveled highway.

Sulphur Springs, Tex.—City awarded contract to construct 35,000 square yards of paving, 12,000 cubic yards excavation, 20,000 feet curb, etc.

Contracts to Be Awarded.

Amite, La.—Tangipahoa Parish Road District No. 2 will construct 12 miles of road; highway to be 60 feet wide and have gravel crown of 14 to 16 feet; $70,000 available.

Austin, Tex.—City Council appropriated $10,000 for street improvements.

Baton Rouge, La.—State receives bids until January 30 to construct 27 miles of gravel roads.

Jackson, Miss.—City receives bids until February 2 to resurface about 8000 square yards of old brick pavement with sheet asphalt.

McKinney, Tex.—City receives bids until February 3 for improving streets in Improvements District No. 2; 27,646 square yards pavement, 5074.3 cubic yards excavation, 16,436 linear feet of curb and curb and gutter, etc.

Pointe a la Hache, La.—Plaquemine Parish Police Jury will construct 23 miles of road.

Raleigh, N. C.—City and Carolina Power & Light Co. will pave 2600 feet; cost to company about $13,000.

To Build 28 Miles of Road.

Chamber of Commerce,
Alexandria, La., January 23.

Editor Manufacturers Record:

On Tuesday, January 19, an election to issue $100,000 of bonds, with which to build good roads in the Alexandria ward of Rapides parish, was overwhelmingly carried. With the proceeds of the sale of these bonds 28 miles of standard gravel roads will be built throughout the public highways of Alexandria ward.

This election we take it as a signal victory in the face of recent cotton depression and times that have been adverse in this section. This organization realized the time was ripe to start the good-road movement, and we petitioned the Police Jury to call an election, which it did, with the above result. On account of the times there was some opposition to the election at this time, but realizing that times to hustle were never better than when things seem worse, our Chamber of Commerce got right on the job, and with the assistance of the Alexandria members of the Police Jury, the constant boosting on the part of our local newspaper and the work of other intersted citizens, both ladies and gentlemen, we carried the election by a large majority. Which proves conclusively that in the face of very adverse circumstance Alexandria never goes back, but is progressing more rapidly with the march of prosperity.

A. T. FELT, Secretary.

TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Cotton Bagging Instead of Jute.

In an article in the News of Jackson, Miss., urging the substitution of cotton for jute in wrappers, containers, bags, etc., Dr. Reuben T. Clark of Jackson says:

"No definite figures are available at this time as to what this increased consumption would be, but some idea can be formed when we consider that an average of 16 pounds of jute bagging is required to properly wrap one bale of cotton, and applying this to the present season's 16,000,000-bale crop we have the enormous aggregate of 256,000,000 pounds of jute bagging required to wrap the crop of the present season, equal in weight to 512,000 cotton bales of 500 pounds each."

The Cotton Movement.

In his report for January 22 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 175 days of the present season was 9,520,491 bales, a decrease under the same period last year of 2,119,604 bales. The exports were 3,358,744 bales, a decrease of 2,692,493 bales. The takings were, by Northern spinners, 1,460,308 bales, a decrease of 353,723 bales; by Southern spinners, 1,875,643 bales, a decrease of 217,169 bales.

To Manufacture Cotton Felting.

The Batesville Fiber Co., Batesville, Miss., has been organized as the successor of the Panola Cordage Co., the new company having a capital stock of $50,000. It has added a bleachery and changed the mill to the manufacture of cotton felting and kindred products.

Textile Notes.

R. R. Dancy, Houston, Tex., is reported interested in a plan for the organization of a company with $200,000 capital for establishing a mill to manufacture blankets and similar goods.

Carl Nessler, president; P. C. Wadsworth, secretary; D. H. Mohler, treasurer, and associates are organizing a company to build a cotton mill. They contemplate an authorized capital of $1,000,000 and a plant of 10,000 spindles, with accompanying looms, etc.

The Bradford Company, Louisville, Ky., has been incorporated with a capital stock of $5000 by Ben Rosenbaum, Sydney Davis and T. A. Copeland. This corporation has been organized by the first mortgage bondholders of the Bradford Worsted Spinning Co., who recently purchased that company's plant and will continue manufacturing worsted.

Construction Department

IN ORDER TO FOLLOW UP

Properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be written on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the postoffice will generally be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur, as our reports are often published before new companies are known and before they have any established office for the receipt of mail.

WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

DAILY BULLETIN

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is $25 per year.

All advertising contracts in the Manufacturers Record for three months or longer include a subscription to the Daily Bulletin for the contract period, as well as a subscription to the Manufacturers Record.

BRIDGES, CULVERTS, VIADUCTS

Ala., Montgomery.—Elmore County Commissioners, Wetumpka, Ala., engaged Edgar B. Kay, Engr., Tuscaloosa, to survey Tallapoosa River banks for location of site for bridge across river to be erected by Montgomery and Elmore counties; estimated cost $50,000; Mr. Kay will work in co-operation with Thos. H. Edwards, County Engr., Wetumpka. (Lately noted.)

Ala., Pine Hill.—Gulf, Florida & Alabama Ry., G. A. Berry, Ch. Engr., Pensacola, Fla., let contract American Bridge Co., 30 Church St., New York, to construct steel bridge over Alabama River; draw span 292 ft. long; 2 through trusses, each 146 ft. long; 3 deck plate girder approach spans, each 45 ft. long. (Previously noted to be built.)

Fla., Jacksonville.—Board of Public Works is considering construction of bridge over Hogan's Creek at Liberty and Orange Sts.; estimated cost $20,000.

Md., Baltimore.—State Roads Com., Garrett Bldg., opened bids to construct sections Nos. 7 and 8 (500 and 100 ft. long, respectively) of bridge over Patapsco River at Hanover St.; spans extend across channels in main branch Patapsco River and are connected with shores of Baltimore and Anne Arundel counties by 3 fills now being constructed by Luck Construction Co., Roanoke, Va.; McLean Contracting Co., 1411 Fidelity Bldg., Baltimore, secured contract at $108,866.72 for sections Nos. 7 and 8, and P. Flanigan & Sons, 120 E. Lexington St., Baltimore, at $72,871.54 to pave with asphalt roadway 50 ft. wide and 2 sidewalks each 8 ft. wide. (Call for bids lately noted.)

Mo., Kansas City.—City contemplates voting, probably within 60 days, on $400,000 bonds for viaducts and bridges; Henry J. Jost, Mayor. (See Road and Street Work.)

Okla., Idabell.—McCurtain county defeated $122,000 bonds for bridge and road construction. (Noted in October.)

Tex., Waco.—City defeated $12,000 bonds to construct bridges. (Lately noted.)

Va., Lawrenceville.—Brunswick county will construct steel bridge over Meherrin River, 2 mi. south of Lawrenceville; County Supervisors, W. T. Sledge, Clerk, receives plans, specifications and proposals until Feb. 19. (See Machinery Wanted.)

W. Va., Elkins.—Randolph county will construct 7 bridges as follows: Stone Gutter bridge, length 25 ft. clear span, on S. and P. turnpike; Kings Run, 45 ft. clear span, on Beverly and Fairmont turnpike; Isner's Run, 40 ft. clear span, Beverly and Fairmont turnpike; Mill Creek, 70 ft. clear span, Huttonsville, Helvetia and Pickens pike, at Rosencrance's Mill; Stone House, 170 ft. clear span, across Cheat River; bridge across run near Arthur Crouch's, 20 ft. clear span; Stalnaker Run Bridge on Leading Creek pike, 20 ft. clear span; all of concrete except Stone House bridge on Cheat River, this to be of concrete or steel; bids Mch. 1; Thaddeus Pritt, Clerk. (See Machinery Wanted.)

CANNING AND PACKING PLANTS

Fla., Florida City (formerly Detroit).—Florida City Ice, Light & Power Co. will build 2-story 50x70-ft. addition to plant for sorting, packing, canning and pickling vegetables and fruits.

Fla., Florida City (formerly Detroit).—J. H. Simmons and J. F. Simmons will erect vegetable and fruit sorting and packing-house; 2 stories; 72x100 ft.

Ga., Macon.—Armour & Co. (main office, Chicago, Ill.) reported to erect building; 3 stories; reinforced concrete; tile finish; S. C. Clark, Archt., Chicago, Ill.

Md., Baltimore.—Salganik Wolf & Sons, 104 S. Exeter St., (incorporated as Consolidated Beef & Provision Co.), let contract to West Construction Co., 23 Knickerbocker Bldg., Baltimore, to erect plant at 104 S. Exeter St.; 50x50 ft.; concrete, brick and frame construction; slag roof; electric light; steam heat; freight elevator; cement sidewalk; bar-lock lights; will install 100-ton ice machine, refrigerating plant, sausage machines, etc.; cost $25,000; Geo. R. Callis, Archt., 55 Knickerbocker Bldg., Baltimore. (Lately noted.)

Tex., Wadsworth.—Wadsworth Kiln Co. organized to kiln-dry farm products, making specialty of blackeye peas; L. Jaimeson, Prest.; Theo. Schaedel, V.-P.; H. L. Taylor, Secy.-Treas.

CLAYWORKING PLANTS

Fla., Jacksonville—Bricks.—Composite Brick Co., E. R. Hood, Mgr., contemplates increasing capacity of plant.

La., Alexandria—Bricks.—C. N. Adams will rebuild brick works reported burned at loss of $12,000.

Mo., Wellston—Bricks.—American Press Brick Co. increased capital stock from $60,000 to $75,000.

Tex., Post—Bricks, etc.—Frank Bowman of West Virginia is reported to build plant to manufacture brick, tile for drainage and tile for silos.

COAL MINES AND COKE OVENS

Ala., Birmingham.—W. G. Lunsford and J. S. Shannon purchased Oak Leaf Coal Co. property and will organize company to resume development.

Ga., Savannah.—Taggart Coal Co., capital $50,000, incptd. by G. I. and J. P. Taggart.

Ky., Whitesburg.—Roberts Coal Co. will build mining plant.

Ky., Whitesburg.—South East Coal Co. will develop coal mines; build coal tipples, miners' houses, etc.

Mo., St. Louis.—Ewing-Mackay Coal Co., capital stock $25,000, incptd. by W. M. Ewing, Geo. C. Mackay, A. W. Farrar and others.

Okla., Miami.—McConnell-Barnes Mining Co. (lately noted incptd.) will operate zinc concentrating plant. (See Mining.)

Tenn., Chattanooga.—Caney Creek Coal Co., capital stock $100,000, incptd. by Chas. Moore, J. D. Carlin, O. P. Darwin and others.

Va., Roanoke.—Eastern Kentucky Block Coal & Fuel Co., capital $80,000, incptd.; W. O. Brothers, Prest.; H. V. Brothers, Secy., both of Honaker, Va.

W. Va., Charleston.—Ivy Branch Coal Co., capital $50,000, incptd. by A. E. Moore, John W. Moore, Angus McDonald and others.

W. Va., Davis.—Davis Coal & Coke Co., Davis Bldg., Cumberland, Md., is not planning to sink additional shafts and increase annual output from 2,000,000 to 3,000,000 tons coal, as recently reported; has already obtained this increase during past year, in accordance with details previously announced; total cost of improvements, $934,000; all completed with exception of 2 small contracts now nearing completion.

W. Va., Fairmont.—Consolidation Coal Co., Continental Trust Bldg., Baltimore, Md., and New York, holds meeting Jan. 30 to authorize $8,000,000 increase of capital stock and will issue $7,000,000 bonds; reported as planning increased annual capacity at various mines.

CONCRETE AND CEMENT PLANTS

N. C., Wilmington—Septic Tanks, etc.—Cement Products Co., 1015 Murchison Bldg. (lately noted incptd., authorized capital $15,000), organized; Geo. W. Kidder, Prest.; J. F. Harris, V.-P.; H. deW. Rapalje, Secy., Treas. and Mgr.; manufacture reinforced-concrete septic tanks (ready made)—4 outfits daily; using leased plant; needs collapsible metal concrete forms and some materials. (See Machinery Wanted.)

COTTON COMPRESSES AND GINS

Ark., Booneville.—W. F. Valentine will rebuild plant lately noted burned; install three 80-saw huller gin system complete. (See Machinery Wanted.)

S. C., Anderson.—J. J. Fretwell will build gin. (See Flour, Feed and Meal Mills.)

Tex., Tioga.—Dr. E. E. Ledbetter and others contemplate organizing company to build gin.

DRAINAGE SYSTEMS

La., Estherwood.—Acadia Parish 5th Ward Drainage Dist. No. 1, previously noted (under "Crowley") as to vote Feb. 2 on $48,000 to construct gravity drainage system, contemplates construction 6 canals 20 ft. wide and 4 ft. deep; opening of natural drains, partly through loam soil, partly in light timber; drain 15,000 acres near Estherwood for farming and cotton; if bonds are voted and sold, will need dredge and prices on construction; Ellis I. Hoffpauir, Prest. Commrs., Estherwood. (See Machinery Wanted—"Dredging Machinery.")

ELECTRIC PLANTS

Ala., Leeds.—Alabama Power Co., Birmingham, Ala., will install equipment for lighting streets, business houses and dwellings, also for other towns along transmission line; no contracts to be let; all materials secured.

Ark., Newport.—Arkansas Power Co. of Malvern, Ark., will acquire Co-operative Electric Light Co. of Newport; reported to improve electric-light plant and water-works.

Fla., Green Cove Springs.—S. I. Talmadge and C. O. Lohmeier are reported as having franchise to construct electric-light and power plant.

Fla., Safety Harbor.—Mutual Electric Light & Power Co., capital stock $15,000, incptd.; S. I. Talmage, Prest. and Gen. Mgr.; Geo. Booth, Sr., V.-P.; C. O. Lohmeyer, Secy.-Treas.

La., Winnfield.—Johnson Ice & Light Co. (lately noted as to build plant) purchased plant of Winnfield Ice & Light Co.; J. M. Johnson, Prest. of new company; J. E. Johnson, Secy., Treas. and Mgr.

Mo., Morrison.—City is reported as contemplating construction of electric-light plant. Address The Mayor.

Mo., University Station, P. O. St. Louis.—City is reported to vote on $100,000 bonds to construct electric-light plant with underground conduits. August Hepman, Mayor.

N. C., Duke.—Erwin Cotton Mill Co., Durham, N. C., and Duke, is reported as preparing to build large electric plant.

N. C., Nashville.—City will petition Legislature for authority to vote on construction of electric-light plant, water-works and sewerage system. Address The Mayor.

N. C., Nashville.—East Carolina Power & Light Co. submitted proposition to furnish electricity from water-power development planned near Spring Hope. (See Water-power Development.)

N. C., Norlina.—City will petition Legislature for authority to vote on bonds for electric-light plant, etc. Address The Mayor. (See Water-works.)

S. C., Conway.—Quattlebaum Light & Ice Co., Paul Quattlebaum, Prest. (lately noted incptd., capital $30,000), consolidates Conway Light & Power Co. and Quattlebaum Ice Co.

Tenn., Shelbyville.—Tennessee Power Co., Nashville, Tenn., is reported to have purchased Shelbyville electric-light plant and to improve.

Tex., San Angelo.—San Angelo Street Ry. Co. is reported to build power station and extend railway.

Va., Staunton.—Staunton Lighting Co. will install 1000-kilowatt turbine in electric-light plant; cost $18,000; equipment ordered.

FERTILIZER FACTORIES

N. C., Clayton.—Ashley, Horne & Son (C. W. Horne and others) will build guano fertilizer factory.

FLOUR, FEED AND MEAL MILLS

Ala., Anniston.—Farmers' Union Warehouse Co. will install mixing and conveying machinery and will mix feedstuffs. (See Miscellaneous Enterprises.)

Ala., Birmingham.—Western Grain Co. will install machinery to grind and mix stock food and chicken feed. (See Miscellaneous Enterprises.)

Ala., Gadsden.—Freeman Bros. organized to build grist mill; electric power.

Ga., Cordele.—Powell & Jones are proceeding with construction of 30x40-ft. wood building for lately-noted plant; capacity 25 bbls. flour daily; needs 25 H. P. oil engine; other machinery supplied. (See Machinery Wanted.)

Mo., Kinmswick.—Gerard Milling Co., capital $10,000, incptd. by Chas. H., A. F. and Edward Gerard.

N. C., Henderson.—Henderson Grain & Feed Co., J. S. Poythress, Prest., will rebuild grain and feed plant reported burned; purchase new machinery. (See Machinery Wanted.)

N. C., Icard, P. O. Connellys Springs.—Icard Mfg. Co., D. B. Mull, Prest., will manufacture wheat flour and corn meal. (See Lumber Manufacturing.)

N. C., Welcome.—Welcome Milling Co., capital $25,000, incptd. by W. S. Owen, J. C. Ripple, J. L. Ripple and others.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

S. C., Anderson.—J. J. Fretwell will build roller and corn mill, erect gin and develop water-power on Eighteen-Mile Creek; generate 100 H. P.; estiamted total cost, $10,000.

S. C., Conway.—H. C. Chapman contemplates establishment of flour mill.

S. C., Spartanburg.—Spartanburg Roller Mills, capital $10,000, incptd. by N. L. Bennett and J. T. Blackwell.

Tenn., Memphis.—Pease & Dwyer let contract to construct feed milling plant.

Tenn., South Pittsburg.—S. A. Dunwoody is promoting erection of flour mill estimated to cost $10,000.

FOUNDRY AND MACHINE PLANTS

Mo., Kansas City—Stoves.—Bathurst Stove Co., capital stock $12,000, incptd. by M. G. Reed, T. T. Bathurst and others.

Mo., St. Charles—Engines, etc.—St. Mary's Machine & Engine Co. of St. Mary's, O., contemplates completion of proposed buildings May 1; one 250x90 and one 160x70-ft. structures; power-house, etc. (Previously noted as letting contract Bellefontaine Bridge & Steel Co., Bellefontaine, O., at $29,460, to erect two brick and steel buildings.)

Tex., Beaumont—Sawmill Machinery, etc.—Beaumont Iron Works Co. held annual meeting; deferred contemplated extensions and improvements to next quarterly meeting of directors in March.

Tex., Wichita Falls—Stoves.—Zeigler Stove Co., capital stock $25,000, incptd. by J. C. Zeigler, J. A. Kemp and H. B. Hines.

W. Va., Dupbar—Electric Motors.—Pavey Electric Co. let general contract W. T. Moore of Dunbar Land Co. to erect 2-story brick factory building, 200x175 ft.; cost $30,000. (Lately noted incptd. with $100,000 capital stock by Frank and Samuel Pavey of Indianapolis, Ind., and others.)

GAS AND OIL ENTERPRISES

Ala., Anniston.—Anniston Electric & Gas Co. (Alabama Power Co., Birmingham, Ala.) contemplates improvements to gas plant; not ready to announce details; will ask prices on benches, condensers, scrubbers and washer; E. S. Center, Jr., purchasing agent Alabama Power Co., Brown-Marx Bldg., Birmingham. (See Machinery Wanted.)

Fla., Gainesville. — City, C. Matheson, Mayor, contemplates installation of lately-noted gas plant; nothing definite as yet.

La., Lake Charles—Gas Franchise.—City, Andrew Cook, Clerk, receives bids until Feb. 25 for lately-noted gas franchise. (See Machinery Wanted.)

Mo., St. Louis—Gasoline.—Motor Gasoline Co., capital stock $5000, incptd. by F. C. Winters, S. W. Boyer and F. J. Greve.

Okla., Claremore.—Grand River Gas Co., capital stock $20,000, incptd. by A. T. Woods, Frank Bortle and G. W. Fry.

Okla., Haskell.—Cole Pool Oil Co., capital $2400, incptd. by M. M. Brown and H. E. Shipley of Haskell and J. E. Bryan of Boynton, Okla.

Okla., Madill.—Hundred Seventy Oil & Gas Co., capital $50,000, incptd. by B. F. Dalton, S. D. Long and E. L. Ingle.

Okla., Oklahoma City.—Grand River Gas Co., capital $20,000, incptd. by A. T. Woods, Frank Bortle and G. W. Fry, all of Claremore, Okla.

Okla., Oklahoma City.—American Oil Fields Corp., capital stock $5000, chartered by Jas. S. Gladdish, M. L. Gladdish and M. L. Scales.

Okla., Tulsa—Broken Arrow Gas Co., capital $35,000, incptd. by E. R. Minshall, L. R. Lewis and Lenore H. Malloy.

Okla., Tulsa—Oil Pipe Line, etc.—Prairie Pipe Line Co., capital stock $27,000,000, incorporated; acquires transportation properties of Prairie Oil & Gas Co.; offices at Independence, Kan.; W. F. Gates, Prest.; C. H. Kountz, V.-P.; R. J. Hare, Treas.; all of Independence. New company is reported as planning construction, etc., costing between $3,000,000 and $4,000,000, about as follows: Lay 325 mi. pipe line; 12-in. pipe to loop lines between Indian and Cherokee stations and Caney; 8-in. pipe for doubling line from Carrollton, Mo., to Alton; install additional machinery, increasing capacity of pumping stations at Cushing, Okla., and Alton; increase facilities for handling oil from 45,000 to 80,000 bbls. daily; let contract National Tube Co., Pittsburgh, Pa., for 400 mi. steel pipe varying 6 to 12 in. diameter.

Tex., Fort Worth.—Magnolia Petroleum Co., Galveston, Tex., is reported to have purchased 245 acres land near Birdvill (suburb) on which to build 30 storage tanks costing about $15,000 each during coming year; 10 tanks to be erected at once.

Tex., Kastland.—Canfield Oil Co., capital stock $25,000, incptd. by Isaac Canfield, C. P. Canfield, Chas. Pettit and others.

Tex., Sour Lake.—Yount-Lee Oil Co., capital stock $50,000, incptd. by M. F. Yount, T. P. Lee and E. F. Woodward.

W. Va., Charleston.—Kanawha Crude Oil Co., capital $100,000, incptd. by Peter Carroll, Clyde B. Johnson, Wm. Conley and others.

W. Va., Wheeling.—Pleasants Natural Gas Co., capital $25,000, incptd. by G. H. Ritchie, Wm. G. Hamilton, Norman E. Ritchie and others.

ICE AND COLD-STORAGE PLANTS

Ala., Mobile.—City Ice Co. let contract Dixie Engineering & Insulating Co., Atlanta, for cold-storage insulation for 100-ton ice plant and ice-storage rooms; contract includes cold-storage doors and asphaltum.

Ark., Leslie.—Co-operative Cold Storage Co., A. C. Edwards, Mgr., will secure site on which to build ice plant; $5000 subscribed. (Lately noted.)

Fla., West Palm Beach.—City Council granted franchise Florida Utilities Co. (Dr. J. A. Kennedy and others), West Palm Beach, to establish 20-ton ice plant; engaged Dixie Engineering & Insulating Co. of Atlanta, Ga., as consulting engineer; preparing plans and specifications.

Miss., Biloxi.—Sea Food Co., Box 910, contemplates erection of ice plant; about 25 to 40 tons capacity. (See Machinery Wanted.)

Miss., Clarksdale.—Holland Ice Co. is reported to enlarge plant, adding new machinery.

Mo., Joplin.—Siloam Springs Ice & Water Co., Siloam Springs, Ark., states does not contemplate building ice plant at Joplin. (Lately noted.)

Tex., Beaumont. — City Council adopted plans by Jas. F. Weed, Engr., for improvement of Island Park; plans include clearing of entire 77-acre island; building of levee 14 ft. high around 57 acres of island, with 30-ft. boulevard on levee, with necessary revetments to protect against erosion; filling and terracing of land encircled by levee; building of artificial creeks, swimming pools and playgrounds; erection of reinforced concrete Olympian pavilion, together with comfort stations, shelter-house, bathhouses, etc.; building of pontoon bridge across Brakes Bayou, connecting park with city at foot of Cypress St.; 20 acres encircled by levee to be permanent home of Southeast Texas Fair; city votes Mch. 3 on $150,000 bonds.

Tex., Brownsville.—Barber Plantation Co., capital stock $50,000, incptd. by Chas. E. Barber, C. M. Roberts and H. K. Barber to grow and sell sugar-cane and manufacture sugar.

Va., Bristol.—Barker Conservation Realty Co., authorized capital $100,000, organized by E. E. Barker and others; plans to secure waste lands in Southwest Virginia and East Tennessee, divide into small tracts and sell to parties who will agree to develop and improve same in accordance with plans outlined.

LUMBER MANUFACTURING

Ala., Hurtsboro.—Union Lumber Co., capital stock $20,000, incptd. to operate sawmill, etc.; C. W. Johns, Prest. and Gen. Mgr.

Mo., Jefferson City.—Lee Jordon Lumber Co., capital $33,500, incptd. by Lee Jordan, Jos. Pope and W. C. Irwin.

N. C., Asheville.—Orchards Co., capital $16,000 incptd. by John A. Campbell and others; plans to cut timber, etc. (See Land Developments.)

PROPOSAL ADVERTISEMENTS
IN THIS ISSUE
PUBLISHED ON PAGES 61 and 62

In order to secure best bids from leading engineers, contractors and investment houses, the proposal advertising columns of the Manufacturers Record are invaluable.

Rate 20 cents per line per issue.

When Proposal Advertisements cannot be sent by mail in time to secure insertion before date for opening bids, please wire advertisement copy by Night Letter.

Proposal Advertising must reach us not later than 9 A. M. Wednesday for publication in issue of that week.

S. C., Conway.—Quattlebaum Light & Ice Co., Paul Quattlebaum, Prest., consolidates Conway Light & Power Co. and Quattlebaum Ice Co.; lately noted incptd. (See Electric Plants.)

Tenn., Memphis.—Geo. H. Guthrie will build ice-storage plant at Central Ave. and Blythe St. to cost $3000.

Va., Portsmouth.—Isaac Fass will build ice and cold-storage plant; 2 stories; brick; 40x90 ft.; ice factory to have daily capacity of 25 tons for icing purposes and 20 tons for cold storage; estimated cost $25,000; plans prepared; contract let.

IRRIGATION SYSTEMS

Tex., San Antonio.—Val Verde Irrigation Co. let contract L. D. Crawford of San Benito to construct 25 mi. canal and laterals and about 9 mi. graded and graveled highway.

LAND DEVELOPMENTS

Md., Berlin.—Bay View Orchard Co., capital $50,000, incptd. by O. Harrison of Berlin, W. B. S. Powell of Ocean City, Md., and J. G. Townsend, Jr., Selbyville, Del.

Mo., Fulton. — City contemplates $10,000 bond issue for city park; I. W. Holman, Chrmn. Park Board.

Mo., Kansas City.—City contemplates voting, probably within 60 days, on $500,000 for parks, including Swope Park improvements; Henry J. Jost, Mayor. (See Road and Street Work.)

N. C., Asheville.—Orchards Co., capital $16,000, incptd. by John A. Campbell, J. S. Hursey, W. H. Redwood, J. E. Fulgham and Jas. M. Williams; plans to develop orchards, cut lumber, etc. (Lately noted to have purchased 400 acres timber land and to develop as orchard after timber is cut.)

Tex., Santo—Stock Raising.—Santo Land & Livestock Co. (lately noted incptd., capital stock $30,000) organized; J. H. Thornton, Prest.; M. P. Barrow, V.-P.; Bert M. Irwin, Secy.-Treas.; will develop 7094 acres for stock raising.

N. C., Icard, P. O. Connellys Springs.—Icard Mfg. Co. incptd., capital stock $125,000; D. B. Mull, Prest. and Treas.; A. J. Cook, V.-P.; erect 200x50-ft. building after plans by D. B. Mull; manufacture all kinds of building materials, lumber and plastering lath; also wheat flour and cornmeal. (See Flour, Feed and Meal Mills.)

N. C., Statesville.—Pine Lumber Co. (P. R. Haufe and J. M. Adams) will rebuild burned plant; construction begun; American Wood Corp. leased mill and will operate.

South Carolina.—Ed. Long, Engr. Saner-Ragley Lumber Co., Carmona, Tex., is preparing preliminary drawings for double-band and gang saw mill to be built in April.

South Carolina.—Ed Long, Constr. Engr. Saner-Ragley Lumber Co., Carmona, Tex., is preparing preliminary drawings for construction double band and gang mill in April.

Tenn., Cowan.—Davidson, Green & Hicks Lumber Co. of Nashville purchased 44,000 acres timber land extending from near Cowan to North Alabama line; reported to build band-saw mill and railroad trackage.

Tenn., Jellico.—Kentucky Lumber Co. is reported to develop about 2000 acres timber land.

Tenn., Johnson City.—J. P. Sells of Johnson City and M. F. Miller of Piney Flats purchased 100-acre boundary of hardwood timber land and will build sawmill.

Va., Norfolk. — Garrett-Hill Lumber Co. (lately noted incptd., $25,000 capital stock) organized; J. L. Garrett, Prest. and Treas.; C. T. Hill, V.-P.; L. V. Ramsay, Secy.; purchased plant; opened bids Jan. 18 to erect $3000 mill-construction building.

Va., Pulaski.—Pulaski Lumber Co., capital stock $25,000, incptd.; Geo. R. Cheves, Prest.; C. H. Miles, Secy.-Treas.

METAL-WORKING PLANTS

Ga., Atlanta—Metal Products.—Magnus Co., capital stock $25,000, incptd. by F. E. Beal, H. N. Randolph and R. S. Parker.

Md., Baltimore—Sheet Iron.—Jos. E. Watkins, 225 N. Howard St., let contract to John E. Marshall & Son, 121 Mercer St., Baltimore, to erect plant at Paca and Mulberry Sts. for occupancy by John G. Hetzell & Son; 18x60 ft.; 4 stories; brick and wood; tin roof; steam heat; freight elevator; cost about $6500; Haskell & Barnes, Archts., 301 N. Charles St., Baltimore.

Okla., Bartlesville—Sheet Metal and Plumbing.—Union Sheet Metal & Plumbing Co., capital stock $5000, incptd. by C. J. Cottrell, Orin Weaver and T. L. Enoch.

Tex., Dallas—Bolts.—J. D. Oliger (purchasing agent Texas Light & Power Co.) and others are reported as promoting establishment of bolt factory.

Tex., Waco — Cornicing, etc. — Torbett & Germond Co. purchased site on which to build plant; 1 story; present plans provide for structure 50x100 ft., but size may be increased to 100x100 ft.; estimated cost of site, building and equipment, $15,000.

Va., Newport News—Tools.—International Tool Works of Detroit, Mich., is reported negotiating for lease of site on which to build tool works.

MINING

Ark., Searcy County—Lead and Zinc.—F. H. Dyer of Tulsa, Okla., organized company to develop lead and zinc mines in Searcy county.

Fla., Manatee—Limestone.—Manatee Limestone Co., capital stock $20,000, organized to quarry limestone; Prest., Bradley H. Phillips, Buffalo, N. Y.; Huntington R. Kenyon, V.-P. and Gen. Mgr., Manatee; Secy, Arthur W. Haile, Buffalo, N. Y.; Treas., Alfred S. Kenyon, Manatee.

Ky., Louisville—Asphalt.—Premier Asphalt Co., capital $500,000, incptd. by A. V. Hageman of Lorain, O.; J. B. Coffenbury, F. C. Mills, Arthur Cobb and M. Feld, all of Cleveland, O.

Mo., Joplin—Lead and Zinc.—Nimmie Tam Mining Co., capital stock $2000, incptd. by Jos. E. Aldrich, D. C. Wise and Hugh Dabbs.

Mo., Joplin—Lead and Zinc.—Coal Springs Lead & Zinc Co., capital $6000, incptd. by Charter Lane, Geo. Buxton and Henry S. Miller.

Mo., Joplin—Lead and Zinc.—W. O. Cragg and A. W. Canada purchased greater portion of Grey Top Mining Co.'s concentrating plant at Commerce, Okla., and will remove to Joplin; purchased and will install additional machinery; new plant to have capacity of 250 tons and be electrically operated; 6-table sludge department.

Mo., St. Louis—Stone.—Wabash Stone Co., capital stock $2000, incptd. by John F. Ellictt, Harry W. Elliott, Solomon S. Stone and Alex. Thom.

Mo., St. Louis—Lead and Zinc. — Horse Valley Mining Co., capital $200,000, incptd. by J. A. Schmiemeier, Ernest Oertel and R. T. Winterman.

Mo., Webb City—Lead and Zinc.—Big Stick Mining Co., capital $20,000, incptd. by Chas. A. Byrd, O. M. Carter and Walter G. Carter.

N. C., Charlotte—Gold.—Southern Venture Co., capital $20,000, incptd. by John H. Furman and others.

N. C., Charlotte—Gold.—Pioneer Gold Mining Co., capital $200,000, incptd. by John M. Furman, P. P. Zimmerman and Chas. McDonald.

N. C., Gold Hill—Gold.—Gold Hill Consolidated Co. is reported as considering erection of smelting plant with daily capacity of 10 to 20 tons.

Okla., Cushing.—Cap Rock Mining & Development Co. of Oklahoma, capital $50,000, incptd. by Jack Hyde, Lucy Hyde and A. H. Holland.

Okla., Miami — Zinc. — McConnell-Barnes Mining Co., capital stock $4000, incptd. by C. J. McConnell of Miami and others; installed machinery for small zinc concentrating plant; present daily capacity 20 tons zinc.

Okla., Miami — Zinc and Lead. — Miami Amalgamated Mining Co., Box 505 (lately noted incptd., capital $50,000), organized; S. S. Dickinson, Larned, Kans., Prest.; Alex. Findlay, V.-P. and Mgr.; W. H. Trapp, Secy.-Treas.; develop 10 acres; daily capacity, 10,000 jack, 500 lead; in operation.

Tenn., Erwin.—Clinchfield Mineral & Milling Corp. is reported to build additional mill to grind low-grade spar. (Lately noted, under Va., Bristol, as increasing capital stock from $300,000 to $750,000.)

Tenn., Knoxville—Marble.—East Tennessee Marble Co. increased capital stock from $50,000 to $100,000; purchased additional quarry properties for development and will erect mill.

MISCELLANEOUS CONSTRUCTION

Ga., Augusta — Levees, etc. — River and Canal Com., Nisbet Wingfield, Ch. Engr., 747 Broad St., let contract C. E. Teague of Columbia, S. C., at $39,800 to construct Section 4 earth levee from east boundary to railroad trestle below Sand Bar Ferry, 11,400 ft.; 30,000 cu. yds. excavation and 250,000 cu. yds. earth fill; call for bids lately noted. (See Sewer Construction.)

Md., Baltimore—Plumbing.—Riggs, Distler & Stringer, 23 Light St., have contract at about $27,009 to furnish and install plumbing equipment for Coca-Cola Bldg. enlargement; to include 484 fixtures.

Md., Baltimore — Swimming Pool. — Park Board, Geo. Weems Williams, Prest., Maryland Trust Bldg., decided to build swimming pool in Clifton Park this year; estimated cost $30,000.

Md., Baltimore — Dredging. — Board of Awards opened bids to dredge docks and channels in inner harbor; 230,000 cu. yds. excavation; $40,000 appropriation; Maryland Dredging & Contracting Co., 1515 Fidelity Bldg., Baltimore, lowest bidder at 14½ and 18 cents per cu. yd. (Call for bids lately noted.)

Md., Baltimore — Dredging. — Board of Awards, City Hall, opened bids to dredge ship channel 35 ft. deep north from Lazaretto Light to piers of transatlantic liners; about 2,000 000 cu. yds. dredging; estimated cost $140,000; Coastwise Dredging Co. of Norfolk, Va., is probably lowest bidder. (Call for bids lately noted.)

Mo., St. Louis — Mausoleum. — Richard C. Kerens let contract, through Barnett, Haynes & Barnett, Archts., St. Louis, for private mausoleum and chapel; bronze portals; interior lined with polished Italian marble; interior of chapel square in plan with octagonal corners; square portion 25x25 ft.; walls lined with Italian marble; sanctuary alcove and altar; circular well, inclosed with molded rail and balustrade, gives view into crypt; 3 art-glass windows; exterior of granite; solid bronze dome and cross; height 56 ft. from lower terrace to top of cross; cost $35,000 to $40,000.

Tex., Sabine Pass — Jetties. — Government contract, lately noted, was let to Chas. Clark & Co., Security Bldg., Galveston; east and west jetties; about 60,000 tons stone, contract price $175,000; Engr., Maj. W. J. Barden, Corps of Engrs., Federal Bldg., Dallas, Tex.

MISCELLANEOUS ENTERPRISES

Ala., Anniston—Grain Elevator.—Farmers' Union Warehouse Co. will build reinforced concrete grain elevator and brick warehouse; 2 stories; fireproof; concrete floor; composition roof; install mixing and conveying machinery and will mix feedstuffs; cost $15,000 to $18,000; Archt., H. D. Breeding, 15 Watts Bldg., Birmingham.

Ala., Birmingham—Grain Elevator.—Western Grain Co. will build grain elevator and install machinery to grind and mix stock food and chicken feed; 6-bin elevator with storage capacity of 20,000 bus.; reinforced concrete; estimated cost $15,000; Archt., H. D. Breeding, 15 Watts Bldg., Birmingham.

Ark., Blytheville—Laundry.—L O'Hara will erect $4000 ordinary-construction brick building and install full equipment laundry machinery; plant lately noted to be rebuilt. (See Machinery Wanted.)

Ala., Mobile—Publishing.—Mobile Item Co. increased capital stock from $75,000 to $90,000.

Fla., Jacksonville — Abattoir. — Southern Cattle Co. will build abattoir costing $25,000.

Fla., Zolfo — Publishing. — Zolfo Springs Publishing Co., G. W. Adams, Prest. and Mgr., lately noted to rebuild plant, will erect 25x50-ft. $2000 fireproof structure; commercial printing.

Ky., Ewing — Limestone Crusher. — Limestone Crusher Co., capital $1000, incptd. by Jacob Stickrod, I. N. Roses, C. F. Parker and others.

La., Newellton—Grain Elevator.—Newellton Elevator Co., Oscar Jones, Engr., will build elevator noted in Dec.; 72x50-ft. building; cost $12,000; mill construction; contract let to H. G. Ruscher, Natchez, Miss., for concrete foundation; balance of building not to be contracted; let machinery contracts, cost $4000; company's officers not yet elected.

Md., Baltimore—Taxicab.—Yellow Taxicab Co. of Baltimore City incptd. with capital stock of $150,000; will operate taxicabs in Baltimore; main office, 701 American Bldg.; Wm. J. C. Dulany, Prest., Calvert Bldg.; Chas. A. Hamilton, Secy.; Wm. A. Gahan, Treas., 1112 Fidelity Bldg.; Harry M. Little, Mgr., 415 N. Howard St. (See Motors and Garages.)

Miss., Natchez—Publishing.—Natchez Publishing Co., capital $30,000, incptd. by R. F. Learned, A. V. Davis and others.

Mo., Kansas City—Printing. — Redfield & Power Printing Co., capital $5000, incptd. by M. H. Redfield, F. G. Powers and C. H. Cotton.

Mo., Kansas City—Garbage-disposal Plant. City contemplates voting, probably within 60 days on $300,000 bonds for garbage disposal; Henry J. Jost, Mayor. (See Road and Street Work.)

Mo., Kansas City — Laundry. — Cassidy Laundry Co., capital $10,000, incptd. by Chas. and Olice E. Cassidy and Richard J. Smith.

Mo., St. Louis.—Anderson's Family Laundry Co., capital stock $20,000, incptd. by J. Arthur Anderson, L. I. Lockwood and Kathryn M. Anderson.

Mo., St. Louis—Barge Line.—John H. Bernhard, 224 E. 104th St., New York, Prest. of Mississippi Valley Transportation Co., is reported to have announced plan for barge line lately noted; proposes capitalization of more than $1,000,000 and construction of terminals at principal river locations between New Orleans and St. Paul; contemplates using 3000-ton barges capable of navigating 15 mi. per hour upstream; steel barges with screw propellers.

Mo., St. Louis—Laundry.—Olive Laundry Co., capital stock $10,000, incptd. by Leslie A. Knight, Edward C. Crone, Augusta J. Knight and Fred W. Herbkesmann.

N. C., Charlotte—Cleaning Establishment.—D. H. Anderson let contract to remodel burned building for stores and dry cleaning establishment. (See Building News, Contracts Awarded, Stores.)

N. C., Lexington—Construction. — Harbin Construction Co., capital $15,000, incptd. by W. Lee Harbin, Z. I. Walser and W. H. Mendenhall.

S. C., Anderson — Grain Elevator. — Carolinas Grain & Elevator Co. will build lately-noted grain elevator; Edw. H. Richards, Prest. of company (address until Apr. 1, Willow City, N. Dak.); J. S. Fowler, V.-P.; other officers not elected; open proposals about Apr. 1 to erect $6300 mill-construction building; plans by Sayre & Baldwin, Anderson; capacity, 25,000 bus. grain; will need equipment. (See Machinery Wanted.)

Tex., Dallas—Publishing.—Record Publishing Co., capital stock $20,000, incptd. by John W. Philips, John E. Davis and W. A. Rhea.

Tex., Dallas—Cleaning.—McGuire Cleaning Co., capital stock $15,000, incptd. by C. E. Neff, J. B. Heinen and L. B. Milam.

Tex., Dallas—Publishing.—Southern Press, capital stock $16,000, incptd. by A. T. Wilson, W. D. Jones and J. H. Smith.

Tex., Denton—Printing.—W. B. McClurkan will erect building, 60x100 ft., to be occupied by Chronicle Publishing Co., Daily Record and store.

Tex., Plainview — Cattle. — Hoosier Cattle Co., capital stock $10,000, incptd. by J. O. Crockett, H. I. Miller and W. S. Ayres.

Va., Galax—Hardware.—Galax Hardware Co., capital $50,000, incptd.; S. B. Kinzer, Prest.; G. D. Brown, Secy.-Treas.

Va., Norge—Publishing.—Phillips Publishing Corp., capital stock $25,000, chartered; Louis C. Phillips, Prest.; K. M. Cannon, Secy.

Va., Richmond—Printing.—Globe Envelope & Printing Co., capital stock $15,000, incptd.; G. Waddy Wilde, Prest.-Secy.; conduct printing and envelope business.

MISCELLANEOUS FACTORIES

Ala., Gadsden—Bottling.—A. W. Calhoun of Anniston, Ala., and W. W. Woodruff of Rome, Ga., will establish Chero-Cola bottling plant; purchased equipment.

Ala., Girard — Bottling. — Columbus Coca-Cola Bottling Co., Columbus, Ga., is reported as contemplating establishment of $10,000 bottling plant.

Ark., Hot Springs—Devices.—Acme Device Mfg. Co. increased capital stock from $15,000 to $30,000.

D. C., Washington.—Granville Mfg. Co., capital $25,000, incptd. by Granville C. Bradford, 2024 20th St. N. W.; Ernest Hall Coolidge and Geo. E. Weigle.

Fla., Ocala—Bottling.—Chero-Cola Bottling Co. (Messrs. Layton and Lane) will install bottling plant.

Fla., Ocala—Bottling and Ice-Cream.—Mo-Cola Bottling Co. (E. F. Newport of East Lake, Fla.; R. E. O'Farrell of New Orleans, La., and others) will install equipment in building at 10 W. Broadway to bottle Mo-Cola and manufacture ice-cream.

Fla., Orlando — Citrus Fruit Extracts. — Florida Citrus Extract Co., capital stock $4000, incptd.; J. R. Johnson, Prest. and Gen. Mgr.; J. C. Johnson, V.-P.; J. F. Winebrenner, Secy.-Treas.

Fla., Vista—Automobile Tires.—Frank Dexter of Gainesville and others are reported to establish plant to manufacture patented automobile tires; used cabbage palmetto.

Fla., West Tampa, Station Tampa—Cigars. Balbin Bros., capital stock $50,000, incptd.; Ernest Berger, Prest.-Treas.; Antonio LaPaz, V.-P.; Florentino Diaz, Secy.-Mgr.

Fla., West Tampa, Station Tampa. — Tampa-Cuba Cigar Co. has plans by Wm. L. Redditt, Tampa, for alterations and addition to cigar factory building at Nassau and Howard Aves.; plans call for addition of 60 ft. at rear of structure, additional office space on southwest front, reinforced concrete tower and tank for sprinkler; vaults in office; on first floor to be erected humidors for bonded and unbonded factories and additional elevator; concrete floors in basement; machinery on third floor; addition will give company bonded factory of about 80x45 ft., 3 stories and basement, and add to unbonded factory 120x45 ft., 3 stories and basement; cost $25,000; contractors, Logan Bros., Tampa.

Ga., Gainesville—Trunks.—Robt. Rainey of Thomasville is reported as contemplating establishment of trunk factory.

Ky., Louisville—Scales.—Wagon Bed Scales Co., capital stock $10,000, incptd. by Hugh A. Smith, Morris Abraham and Gustav Flexner.

Ky., Olympian Springs (not a postoffice)—Bottling.—W. H. Jones of Glasgow, Ky.; Frank A. Best of Jeffersonville, Ind., and others are reported to instal bottling plant and make other improvements on Olympian Springs Hotel property.

Md., Baltimore — Clothing. — Henry Sonneborn & Co., Pratt and Paca Sts., will be incorporated with $4,500,000 capital stock by Henry, Siegmond B. and Moses Sonneborn and others; succeed partnership conducting clothing factory founded in 1849.

Md., Baltimore—Underwear.—Varsity Mfg. Co., Leonard H Weil, Prest., 2409 Eastern Ave., will increase weekly capacity by 300 doz. garments or more; has not purchased machinery for increase; completed 84x62-ft. 4-story reinforced concrete building, with steel window sash, etc., in accordance with contract heretofore reported. (See Machinery Wanted.)

Md., Baltimore — Straw Hats. — Irvin & Leighton, 809 Keyser Bldg., Baltimore, general contractors for addition to factory and warehouse of Townsend-Grace Co., 209-11 W. Fayette St., at $85,000, let subcontracts for excavating and 550 tons structural steel shapes, respectively, to Timothy Bresnan & Sons, 2018 W. North Ave., Baltimore, and American Bridge Co., 600 Continental Bldg., Baltimore; plans by Jos. Evans Sperry, 409 Calvert Bldg., Baltimore, call for a structure 9 stories, 76x33 ft., and 1 story added to present building; fireproof. (Lately noted.)

Mo., Joplin—Bakery.—Junge Baking Co. let contract Lain & Hoffman to build bakery; 1 and 2 stories; 100x120 ft.; estimated cost, $50,000; plans by C. D. Cooley Co., Century Bldg., Pittsburgh, Pa. (Noted in Nov.)

Mo., Kansas City—Bakery.—Campbell Baking Co. will erect bakery at 2939-2947 Troost Ave.; concrete; frontage 130 ft.; cost $40,000.

Mo., St Louis — Materials.—Hickenlooper-Vogel Material Co., capital stock $18,000, incorporated by Carlos and Geo. Hickenlooper, Christian W. Vogel and Evelyn L. Vogel.

Mo., St. Louis — Novelties. — Bryan-Young Mfg. Co., capital $25,000, incptd. by D. D. Young, C. L. Huffman and J. L. Bryan.

N. C., Wilmington—Naval Stores.—North Carolina Naval Stores Co. organized with C. D. Maffitt, Mgr.; acquires plants of Geo. L. Morton Co. and W. A. Martin & Co.; will manufacture spirits of turpentine, strained crude turpentine, rosin, navy pitch, etc.; main offices in Wilmington and representative offices in New York, Norfolk and Memphis.

Okla., Sand Springs—Glass.—Alex. H. Kerr Glass Co. will erect glass tank adjoining fruit-jar plant; also erect additional warehouse.

Okla., Tulsa—Brushes.—North Ridge Brush Co., Freeport, Ill., is reported as considering establishment of brush factory.

S. C., Edgefield—Bottling.—Edgefield Chero-Cola Bottling Co., capital $5000, incptd. by W. F. McMurrian of Edgefield and J. C. May of Augusta, Ga.

S. C., Greenville — Roofing. — J. R. Piper Roofing Co., capital $5000, incptd. by J. R. Piper, W. H. Piper, R. E. Piper and W. B. Budd.

Tenn., Knoxville—Bottling.—Tennessee Cola Co. incptd. by R. R. Starnes, J. E. McCoy, John W. Green and others; reported to build plant costing $100,000.

Tenn., Martin—Creamery.—S. H. Hall, G. S. Knox, W. T. Murphy and others organized company to build creamery.

Tenn., Nashville — Cold-storage Device. — Auto Cold Storage Co., capital stock $100,000, incptd. by C. C. Norton, Wm. Peake, John N. Murphy and others; will manufacture device for cold-storage purposes in small plants and in homes.

Tex., Dallas.—Robinson Mfg. Co., capital stock $20,000, incptd. by W. E. Robinson, J. H. Robinson and David Robinson.

Tex., San Antonio — Varnish.—Dr. Wm. Polatsik of New York, representing New York capitalists, is reported to build varnish factory, varnish to be made from Ithyol (raw gum), found in rocks of Burnet county.

Tex., Sherman—Overalls. — Sherman Overall Mfg. Co. states relative to lately-noted report of increase of capital stock, etc.: Increased capital from $15,000 to $40,000 in April; no increase since; later may consider further increase.

Va., Charlottesville — Adding Machines. — Cheape's Adding Machine Co., capital stock $100,000, incptd.; T. S. Keller, Prest.; E. W. Hardesty, Secy.-Treas.

W. Va., Philipps—Medicine.—Myers Remedy Co., capital $25,000, incptd. by Richard E. Talbott, D. J. Sturm, Scott Phillips and others.

MOTORS AND GARAGES

D. C., Washington.—Federal Motor & Mfg. Co., $100,000 capital, incptd. by Richard B. Owen, 620 F St. N. W., Washington, D. C.; Wm. F. A. Buehner and Babette Buehner, both of Milwaukee, Wis.

Fla., Clearwater—Garage. — A. E. Batchelder of Dunedin will build garage; 40x80 ft.; cement floor.

Fla., St. Petersburg—Automobile Parts.—Amesbury Mfg. Co. (C. H. Prescott and Geo. Fowler), 19 Belmont st., Amesbury, Mass., has purchased site for lately-noted factory to manufacture auto parts; plans for plant not fully decided.

Ga., Augusta—Assembling Plant.—Lombard Works & Supply Co. will build automobile assembling plant; 120x80 ft.; 1 story; structural steel construction; reinforced concrete roof and flooring; brick walls; metal frame windows with wireglass; steel rolling doors; G. Lloyd Preacher, Archt.

Ky., Louisville—Ford Service Building.—Ford Motor Co., Detroit, Mich., will erect reinforced concrete service building; 100x250 ft.; 4 stories; plans (not yet ready) were lately noted to be prepared by Albert Kahn, 58 Lafayette Blvd., Detroit, by Feb. 1.

Md., Baltimore—Garage. — Yellow Taxicab Co. of Baltimore City, 701 American Bldg., recently incptd., Wm. J. C. Dulany, Prest., Calvert Bldg., will erect garage; concrete; fireproof; about 100x150 ft.; cost about $65,000; Wm. G. Nolting, Archt., 1012-15 Keyser Bldg., Baltimore. (See Miscellaneous Enterprises.)

Mo., Springfield—Automobiles.—Southwest Automobile & Supply Co., capital $25,000, incptd. by H. F. Fellows, F. J. Curren and H. B. McDaniels.

Mo., St. Louis—Automobile Repairs and Supplies.—Motor Car Repair & Supply Co., capital $2000, incptd. by Frank Schneider, A. B. Hoffman and F. W. Krestschmar.

Mo., St. Louis—Garage.—Boyd & McCandless will build brick garage; cost $4000.

Mo., St. Louis—Automobiles.—Ford Motor Co. (main office, Detroit, Mich.) will build addition to 5-story assembling plant lately completed at Forest Park Bldv. and Sarah St.; 1 story; 40x50 ft.; Clymer & Drischler, Archts., St. Louis.

Mo., Trenton—Automobiles.—Trenton Motor Sales Co., capital $2500, incptd. by H. M. Longfellow, B. M. and B. H. Bowne.

N. C., Greensboro — Automobiles. — Paige Sales Co. of North Carolina, capital $100,000, incptd. by Claude Kiser, J. H. Thurman and E. D. Broadhurst.

Tenn., Chattanooga — Automobile Accessories.—Southern Auto Supply Co. (lately noted incptd., capital $25,000) will wholesale and retail all kinds of automobile accessories; succeeds established partnership; T. F. Sanford, Prest.; C. H. Huston, V.-P.; D. A. Graves, Secy.-Treas.

Tenn., Union City—Garage. — Semones & Harrison will build additional story to garage and install additional machinery.

Tex., Fort Worth. — Cockrell & Gray of Dallas will rebuild Lewis Garage at 3d and

Throckmorton Sts., reported burned at estimated loss of $20,000.

Tex., Sour Lake—Garage.—Sour Lake Garage, capital stock $4000, incptd. by V. B. Daniels, S. S. Jackson and E. E. Getaz.

Va., South Washington—Automobiles.—Indianapolis-Detroit-Washington Co., capital $100,000, incptd.; Grover C. Hastings, Prest., 1330 Belmont St. N. W.; C. Edward Wright, Secy., Ogden, Utah.

RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

Ga., Waycross.—Atlantic Coast Line Ry., E. B. Pleasants, Ch. Engr., Wilmington, N. C., is reported to have let contract Empire Construction Co. of Douglas, Ga., for brick and carpenter work on proposed shop additions and improvements; previously let contracts for concrete and steel work. (Previously noted.)

Tenn., Chattanooga.—Nashville, Chattanooga & St. Louis Ry., H. McDonald, Ch. Engr., Nashville, is having estimates prepared for amount of repairs necessary during summer to maintain local shops and buildings for year.

ROAD AND STREET WORK

Ala., Girard.—City will pave Second Ave. from Line St. to River Bridge; Earle Morgan, Mayor.

Fla., De Land.—City defeated $24,300 bond issue to pave streets, purchase 2 drainage basins and construct storm-water sewers to these basins. John MacDiarmid, Mayor. (Noted in November.)

Fla., Miami.—Walter E. Flanders Estate let contract Manley-Stearns Construction Co. to construct 1 mi. rock-paved streets in suburb; estate contemplates expending $18,000 in street and sewer work; also plans to construct 2 mi. cement sidewalks and lay water mains.

Ga., Columbus. — Chattahoochee County Good Roads Assn., Frank G. Lumpkin, Prest., is proceeding with construction of previously-noted Columbus to Buena Vista Rd.; sand-clay; about 33⅓ per cent. constructed; probably complete about June; 15 mi. in Muskogee county, 9 in Chattahoochee and 11 in Marion; width 30 ft.; no contracts; work supervised by Julian R. Lane, Ch. Engr.; Chattahoochee portion of road probably cost $7500.

Ga., Macon.—City will construct sidewalks on Vineville Ave. Address The Mayor.

Ky., Greenup.—Greenup county voted $200,000 bonds for road construction; J. G. Prichard, County Clerk. (Lately noted.)

Ky., Louisa.—Lawrence county votes Mch. 15 on $100,000 bonds to construct roads. Address County Commrs.

Ky., Maysville.—W. H. Rees, County Atty., advises county will vote in May on lately-noted $200,000 bonds for road construction.

Ky., Mount Vernon. — Rockcastle county will vote Mar. 25 on lately-noted $100,000 bonds for road construction. Address G. M. Ballard.

Ky., Munfordville. — Hart County Fiscal Court appropriated $6000, guaranteed supplemental subscription of equal amount, and applied for $12,000 State aid to construct road from Munfordville to Upton.

Ky., Wickliffe.—Ballard county votes Feb. 27 on $300,000 bonds to improve roads. Address County Commrs.

Ky., Williamsburg.—Whitley county contemplates voting about Apri. 1 on $300,000 bonds to construct about 80 mi. of roads. Address County Commrs.

La., Alexandria.—Rapides Parish, Pineville Ward, votes Feb. 23 on levying of tax to construct roads.. Address Police Jury.

La., Alexandria. — Rapides Parish Road Dist. N. 2 voted $100,000 bonds to construct 28 mi. standard gravel roads; C. E. Robinson, Prest. Police Jury. (Lately noted.)

La., Amite.—Tangipahoa Parish Road Dist. No. 2 will construct road 12 mi. long between east and west boundaries of parish, with several laterals; highway to be 60 ft. wide and have gravel crown of 14 to 16 ft.; $70,000 available. Address Police Jury.

La., Baton Rouge.—W. E. Atkinson, State Highway Engr., New Orleans, receives bids until Jan. 30 to construct gravel roads as follows: Baton Rouge-Clinton, Baton Rouge-Greensburg, Baton Rouge-Francisville; about 27 mi.

La., Covington.—St. Tammany Parish Police Jury let contract John P. Kennedy, Baton Rouge, at $23,505 to construct 16½ mi. Covington-Franklin Rd., and to Boyd & Bradshaw, Columbia, Miss., at $12,285 to construct 14.4 mi. Covington to Bush Rd.

La., Hahnville. — St. Charles parish will construct gravel roads in Road Dist. No. 3; Lasseigne & Lambert Bros. are lowest bidders at $44,659.

La., Houma. — Terrebonne Parish Road Comm. is reported as contemplating construction of 125 mi. hard-surfaced streets.

La., Pointe a la Hache.—Plaquemine Parish Police Jury will construct road from Pointe a la Hache to Ostrica, 23 mi., and if Government can be interested, will extend road 6 mi. further to Fort St. Philip.

La., Jennings.—City Com. is considering calling election to vote on $75,000 bonds to gravel and pave streets.

Md., Baltimore.—State Roads Com., Garrett Bldg., opened bids to pave roadway of Hanover St. bridge and approaches, contract No. Bc-17, section 6; P. Flanigan & Sons, 120 E. Lexington St., has contract at $72,871.54. (See Bridges, Culverts, Viaducts.)

Md., Baltimore.—Howard County Commrs., Ellicott City, receive bids until Feb. 9 to construct 1.74 mi. State highway in Fourth Election Dist., known as Woodbine-Lisbon Rd.; M. J. Sullivan, Clerk. (See Machinery Wanted.)

Md., Baltimore.—City will grade, curb and pave with granite blocks second section of Key Highway and lay steam railroad track on highway from Montgomery to Lawrence St.; Board of Awards receives bids until Feb. 3; R. Keith Compton, Chrmn. Paving Com. (See Machinery Wanted.)

Md., Baltimore.—City will grade, curb and pave with sheet asphalt, vitrified and granite block, all on concrete base, on Nursery lane, Sapp, Spring, Dallas, Baltimore, Lombard, Essex and Pratt Sts., Patterson Park and Eastern Aves., Broadway, Ellwood Ave., Eastern Ave., Lakewood Ave. and Linwood Ave.; bids by Board of Awards, care of City Register, City Hall, until Feb. 3. (See Machinery Wanted.)

Md., Baltimore.—Board of Awards opened bids for street paving; 12 streets; 9½ mi.; 92,000 sq. yds. to be sheet asphalt; Baltimore Asphalt Block & Tile Co., 231 Courtland St., Baltimore, lowest bidder on asphalt for Carey St. and Edmondson Ave. at $1.46½ per sq. yds.; M. O'Herron & Son, Inc., 843 N. Howard St., Baltimore, lowest bidders for vitrified bricks on Franklin and George Sts. and Druid Hill Ave. (Call for bids lately noted.)

Md., Baltimore.—Board of Awards will invite bids to pave Charles St. from Saratoga to Centre, 4 blocks, with sheet asphalt, and Fayette St. from Charles to Paca Sts., 5 blocks, with granite blocks.

Md., Baltimore.—State Roads Com., Garrett Bldg., let following contracts for road construction: Prince George's County—H. S. Swann, La Plata, Md., $32,198.56, Meadows to Camp Spring, 3.01 mi., concrete construction; award conditional upon decision in favor of Com. of suit now pending in Court of Appeals to prohibit building road; Prince George's County—P. F. Connelly & Co., Boston, Mass., $27,119.01, Upper Marlboro to Hills Bridge, 2.44 mi., concrete construction, award subject same conditions; St. Mary's County — Frederick Taylor, Solliers, Md., $8923.56, Ridge to Confederate Monument, 3.64 mi., gravel; Dorchester County—Luck Construction Co., Roanoke, Va., $36,700, Mt. Holly to Linwood, 3.66 mi., macadam. (Call for bids lately noted.)

Miss., Jackson.—City will resurface about 8000 sq. yds. old brick pavement on Capitol St. with sheet asphalt; L. A. Scott, City Clerk, invites bids until Feb. 2; plans and specifications by M. L. Culley, City Engr. (See Machinery Wanted.)

Mo., Kansas City.—City contemplates voting, probably within 60 days, on $3,400,000 bonds for following improvements which have been recommended by Bond Budget Committee to City Council: $800,000 for Union Station approaches and traffic-ways; $200,000 for 12th St. traffic-way road connections; $800,000 for sewers; $400,000 for bridges and viaducts; $300,000 for garbage disposal; $500,000 for parks, including Swope Park improvements; $150,000 for police stations; $200,000 for fire stations and equipment; $150,000 for general hospital, additions and improvements, and $100,000 for Board of Public Welfare for municipal farm and woman's reformatory; Henry J. Jost, Mayor.

Mo., Springfield.—Greene County Comm.rs. and Commrs. Springfield Eight-Mile Special Road Dist. contemplate macadamizing 125 mi. roads within next 2 years.

N. C., Danbury.—Stokes County Quaker Gap Township defeated $50,000 bond issue to construct roads. (Lately noted.)

N. C., Norlina.—City will petition Legislature for authority to vote on bonds for street improvements, etc. Address The Mayor. (See Water-works.)

N. C., Raleigh.—City and Carolina Power & Light Co. will pave E. Martin St. from Fayetteville to Blount, E. Cabarrus St. from Wilmington to Bloodworth, and Bloodworth from Cabarrus to Lenoir; 2600 ft.; cost to company about $13,000.

Okla., Idabell.—McCurtain county defeated $122,000 bonds for road and bridge construction. (Noted in October.)

Okla., Tulsa.—Tulsa County Commrs. will consider plans to complete highway from Tulsa to Wekiwa, constructed to point 2½ mi. south of Sand Springs; distance 3 mi.; Lewis Clint, County Clerk.

S. C., Spartanburg.—Spartanburg County Commrs. petitioned Legislature for authority to hold election about March 16 on $300,000 bonds to construct roads.

N. C., Wilmington.—New Hanover County Commrs., Wilmington Beach Corp., New Hanover Transit Co. and Kure Land & Development Co. signed contract to construct hard road to Carolina Beach Blvd. and Fort Fisher Sea Beach; distance from Wilmington to Carolina Beach Blvd. is 13 mi., of which 6 mi. has been constructed; estiamted cost $25,000, of which county will pay half and 3 development companies remaining half; remaining distance of 2 mi. to Fort Fisher Sea Beach will be constructed by beach companies. (Lately noted.)

S. C., Orangeburg.—City will pave around portion of Courthouse Square and S. Broughton St. from Hampton St. to Dukes Ave.; vitrified brick estimated to cost $22,000; Belgian blocks may be placed around Courthouse Square. Address The Mayor.

Tex., Austin.—City Council appropriated $10,000 for street improvements. Address The Mayor.

Tex., Belton.—Bell County Commrs. let contract M. W. Taylor, Belton, at $97,800 to construct 40 mi. gravel roads in Dist. No. 7.

Tex., Bryan.—Brazos county votes Mch. 3 on $400,000 bonds to construct road. Address County Comms. (Lately noted to have defeated $600,000 bonds.)

Tex., Corsicana.—Navarro County Commrs.' Court let contract Fred Smith of Dallas at $75,000 to construct 19 mi. roads in Dist. No. 3; R. R. Owen, County Judge; Geo. A. Duren, Highway Engr. (Lately noted.)

Tex., Dickens.—Dickens county voted $12,000 bonds to construct county's portion of Fort Worth-Roswell highway. Address County Commrs.

Tex., Galveston.—P. J. Vautrin of Galveston is lowest bidder at $52,421.22 to construct 21,300 sq. yds. vitrified-brick pavement, to include curbing, drains, bulkheads, etc.; H. O. Sappington, Commr. of Streets and Public Property; A. T. Dickey, City Engr. (Call for bids lately noted.)

Tex., McKinney.—City will improve streets in Improvement Dist. No. 2; 27,646 sq. yds. pavement, 5074.3 cu. yds. excavation, 16,436 lin. ft. curb, and curb and gutter, catch basins, drains, etc.; Sims Cameron, City Secy., receives bids until Feb. 3; plans and specifications on file with City Secy. and with Engineering & Contracting Co., 608 S. Dearborn St., Chicago; Chas. Schultz, City Engr.; lately noted to expend $165,000 on street paving. (See Machinery Wanted.)

Tex., San Antonio.—Val Verde Irrigation Co. let contract L. D. Crawford of San Benito to construct about 9 mi. graded and graveled highway. (See Irrigation Systems.)

Tex., Sherman.—Grayson County Commrs. will consider calling election to vote on $900,000 bonds to construct 200 mi.. roads connecting with Denison and Sherman goodroads systems. Address County Commrs.

Tex., Sulphur Springs.—City, L. E. Gee, Mayor, let contract Thogmartin & Gardiner, Fort Scott, Kans., to construct 35,000 sq. yds. paving; 12,000 cu. yds. excavation; 20,000 ft. curb; vertical-fiber brick paving, asphalt filler, 4-in. concrete base; $85,000 available; A. D. Stivers, Engr., Sulphur Springs. (Bids lately noted.)

Tex., Waco.—City defeated $15,000 bonds to pave streets. (Lately noted.)

Tex., Wichita Falls.—City voted $45,000 bonds to pave streets. Address The Mayor.

Va., Boyton.—Mecklenburg county votes Feb. 10 on $30,000 bonds to construct roads in Bluestone Road Dist. Address County Commissioners.

Va., Dublin.—City voted $5000 bonds to curb streets and extend water-works. Address The Mayor.

Va., Lynchburg.—C. W. Scott, Geo. D. Witt, E. P. Miller and others let contract to lay 4-ft. granolithic sidewalk along west side of Langhorns Rd. from Rivermont Ave. to West Rivermont, 1¼ mi.

Va., Norfolk.—Public Improvement Committee of City Council approved $5400 appropriation to pave 2 blocks on N. Clay Ave., between Brambleton and Sheldon Aves., and $1437.50 to pave Yaxley's La. south of Main St.; W. T. Brooke, City Engr.

Va., Salem.—Roanoke County Cave Spring Dist. votes March 2 on $90,000 bonds to construct 22½ mi. roads. Address County Commissioners.

SEWER CONSTRUCTION

Ala., Birmingham. — City has ordinance drawn to construct sanitary sewers, North Birmingham; estimated cost, $5100; Julian Kendrick, City Engr.

Fla., De Land.—City defeated $24,300 bond issue to purchase 2 drainage basins, construct storm-water sewers to these basins and pave streets. John MacDiarmid, Mayor. (Noted in November.)

Fla., Miami.—Walter E. Flanders estate contemplates constructing sewers in suburb. (See Road and Street Work.)

Fla., Miami.—City will construct sewers in section north of City Cemetery; Engr., B. H. Klyce, 52 Real Estate Bldg., Miami.

Fla., New Smyrna.—City will construct lately-noted sewers; cost $36,000; J. B. McCrary Co., Engr., Atlanta, Ga.; date of opening bids not set.

Ga., Augusta.—River and Canal Com., Nisbet Wingfield, Ch. Engr., 747 Broad St., let contract Beasley Contracting Co. of Birmingham, Ala., at $6390 to construct concrete sewer on 5th St., and to Cottrell Contracting Co. of Augusta at $8343 to construct brick and pipe sewer on Houston St.; 2 contracts for sewers call for 960 lin. ft. reinforced concrete box sewer, 7x4½ ft.; 420 lin. ft. 48-in. brick sewer; 530 lin. ft. 42-in. brick sewer; 760 lin. ft. 36-in. brick sewer; 330 lin. ft. 24-in. pipe sewer. (See Miscellaneous Construction.)

Ga., Hawkinsville.—City votes Feb. 17 on $20,000 bonds to construct sewer, drainage and water systems; G. W. Jordan, Mayor. (Lately noted.)

Ga., Richland.—City contemplates voting on bonds to construct sewers. Address The Mayor.

Miss., Okolona.—City votes Feb. 9 on $58,000 bonds to construct sewer system. Address The Mayor.

Mo., Kansas City.—City contemplates voting, probably within 60 days, on $600,000 bonds for sewers; Henry J. Jost, Mayor. (See Road and Street Work.)

N. C., Morehead City.—City will construct sewer system. Address The Mayor.

N. C., Nashville.—City will petition Legislature for authority to vote on construction of sewer system, etc. Address The Mayor. (See Electric Plants.)

Okla., Afton.—City voted $37,000 bonds to construct sanitary and storm sewer system; Consult. Engr., Benham Engineering Co., 435 American National Bank Bldg., Oklahoma City. (Lately noted.)

Okla., Tulsa.—City will construct sanitary sewer, with necessary inlets, manholes and other appurtenances, in Blocks 116 and 139 of Original Townsite, Sewer Dist. No. 30; City Commrs., City Hall, receive bids until Feb. 1; T. C. Hughes, City Engr. (See Machinery Wanted.)

S. C., Union.—City votes Feb. 16 on $25,000 bonds to extend sewer and water mains. Address The Mayor. (See Water-works.)

Tex., Pecos.—City is reported as contemplating construction of sewage-disposal plant. Address The Mayor.

Tex., Waco.—City defeated $14,000 of bonds to construct sanitary sewers and $4000 bonds to construct storm sewers. (Lately noted.)

W. Va., Bridgeport.—City is reported to have voted $23,500 sewer and water-works bonds. Address The Mayor.

TELEPHONE SYSTEMS

Fla., Key West.—City granted franchise A. S. Metzner of Home Automatic Telephone Co. to construct automatic telephone system; Hialmar K. Gold, City Clerk. (Lately noted.)

Fla., Lakeland.—Peninsular Telephone Co., John F. Vaughan, Supt. of Construction, Tampa, will place all lines underground and install common battery system.

Ky., Siler.—Poplar Creek Telephone Co., Dr. Lee Rose, Prest., lately noted incptd., will operate farmers' line already established.

Miss., Meridian.—Cumberland Telephone & Telegraph Co. (main office, Louisville, Ky.) will erect 3-story exchange.

Mo., Savannah.—Andrew County Mutual Telephone Co. will rebuild office building

lately noted burned; plans not yet considered. Address O. V. Sells.

N. C., Cary.—City Council granted franchise Southern Bell Telephone & Telegraph Co. (main office, Atlanta, Ga.) to build and operate telephone exchange.

S. C., Greenville.—Southern Bell Telephone & Telegraph Co. (main office, Atlanta, Ga.) is reported to expend about $20,000 in improvements, consisting of underground and aerial cables; J. L. Moore of Charlotte, N. C., is plant manager.

Va., Richmond.—Home Telephone & Telegraph Co. of Virginia, J. P. Taylor, Prest., was chartered to take over Virginia property of Home Telephone & Telegraph Co. of North Carolina; does not contemplate new work. (Lately noted incptd., capital stock $100,000.)

TEXTILE MILLS

Ky., Louisville—Worsted.—Bradford Co., capital stock $5000, incptd. by Ben Rosenbaum, Sydney Davis and T. A. Copeland; organized by first mortgage bondholders of Bradford Worsted Spinning Co., who recently purchased plant; will continue manufacturing worsted.

Miss., Batesville—Cotton Felting, etc.—Batesville Fibre Co., capital stock $30,000, organized as successor to Panola Cordage Co.; has added bleachery and changed mill to production of cotton felting, etc.

N. C., Icard, P. O. Connellys Springs.—Icard Mfg. Co., lately noted incptd., will manufacture building materials, etc. (See Lumber Mfg.)

Tenn., Chattanooga—Silk Hosiery.—Nick-a-Jack Hosiery Mills ordered equipment of machinery, including electric power drive, for daily capacity 50 doz. prs. silk hose; will double in 90 days; W. C. Kyle, Prest. and Gen. Mgr. (Organization with $30,000 capital, plans, etc., lately noted.)

Tenn., Johnson City—Cotton Goods.—Dever Little, Supt. of Republic Cotton Mills, Great Falls, S. C., and Stanyarne Little, Johnson City, plan organization of company capitalized at $500,000 to $600,000 for building cotton mill; between 25,000 and 30,000 spindles, with accompanying looms, etc., driven by electric power from Eastern Electric Co.'s transmission system; considering either Johnson City or Bristol, Tenn., as location.

Tex., Houston—Cotton Blankets.—R. R. Dancy is reported interested in plan for organization company with $200,000 capitalization to establish mill for manufacturing cotton blankets and similar goods.

Tex., Texas City — Cotton Goods. — Carl Nessler and associates organizing company to build cotton mill; contemplate authorized capital of $1,000,000 and mill of 10,000 spindles, with accompanying looms, etc.; Mr. Nessler to be Prest.; P. C. Wadsworth, Secy.; D. H. Mohler, Treas.

WATER-POWER DEVELOPMENTS

N. C., Spring Hope.—East Carolina Power & Light Co. plans development of water-power 3 mi. from Spring Hope; secured franchise to furnish city with electric lighting; also submitted proposition to Nashville, N. C., to furnish electricity.

N. C., Waynesville.—Board of Aldermen petitioned Legislature for authority to issue bonds to purchase hydro-electric power site, install power plant and purchase watershed; C. H. Ray, Mayor.

S. C., Anderson.—J. J. Fretwell will develop about 100 H. P. on Eighteen-Mile Creek. (See Flour, Feed and Meal Mills.)

WATER-WORKS

Ark., Arkadelphia.—Arkansas Power Co. is reported to install 2 pumps, each to have daily capacity of 1,000,000 gals.; equipment purchased; later may install filtering plant.

Ark., Fayetteville.—City Water Commrs., H. Sour, Supt., contemplate installation of water filter or clarifying system.

Ark., Little Rock.—Arkansaw Water Co. let contract Layne-Bowler Co. of Houston, Tex., to sink 50 to 100 experimental wells; contract for preliminary work provides that if plan is found feasible and is accepted by city, Layne-Bowler Co. will sink and equip sufficient wells to furnish 5,000,000 gals. daily; permanent wells to be not less than 24 in. in diameter.

Ark., Luxora.—Luxora Water & Light Co., C. B. Wood, Gen. Mgr., contemplates building 2 settling tanks of 100,000 gals. capacity.

Ark., Newport.—Arkansas Power Co. of Malvern, Ark., will acquire Co-operative Electric Light Co. of Newport; reported to improve water-works and electric-light plant.

Fla., Miami.—Walter E. Flanders estate contemplates laying water mains in suburb. See Road and Street Work.)

Fla., New Smyrna.—City will construct lately-noted water-works; cost $47,000; J. B. McCrary Co., Engr., Atlanta, Ga.; date of opening bids not set.

Fla., Tampa.—Tampa Water-works Co., Chester R. McFarland, Gen. Mgr., will construct reinforced concrete reservoir about 206 ft. long by 125 ft. wide and 20 ft. deep, after plans and specifications furnished by company; bids until Feb. 15; lately noted to cost $40,000 and have capacity of 3,500,000 gals. (See Machinery Wanted.)

Ga., Hawkinsville.—City votes Feb. 17 on $20,000 bonds to construct water, drainage and sewerage systems; G. W. Jordan, Mayor.

La., New Iberia.—City Commrs. let contracts aggregating $17,000 to build water-purification plant; let contract H. S. Sealy to construct reinforced-concrete filtered-water receiving storage basins.

Mo., Glasgow.—City contemplates installing centrifugal pump direct connected to electric motor of 432,000 gals per 24 hrs. capacity against head of 50 ft.; R. L. Blacet, Supt.

Mo., Joplin.—City Council authorized Hugh McIndoe, Mayor, to retain engineers to prepare plans for water-works. (Lately noted.)

N. C., Nashville.—City will petition Legislature for authority to vote on construction of water-works, etc. Address The Mayor. (See Electric Plants.)

N. C., Norlina.—City will petition Legislature for authority to vote on bonds for water-works, electric-light plant, street improvements and schools. Address The Mayor.

N. C., Tryon.—City agreed to purchase plant of Tryon Water Co. for $7500; will enlarge and improve; voted $25,000 bonds. A. H. Guion & Co. of Gastonia, previously noted to have secured contract, will proceed with construction; watershed comprises 345 acres, 3 mi. from city; 13,000 ft. 2-in. pipe and 4250 ft. 6-in. pipe; cement reservoir of 200,000 gals. capacity on Piney Mountain; G. H. Holmes, engineer.

N. C., Waynesville.—Board of Aldermen petitioned Legislature for authority to issue bonds to purchase watershed, purchase hydro-electric power site and install power plant; C. H. Ray, Mayor.

Okla., Enid.—Peter Bowers, Mayor, states city is not voting water-works bonds. (Recent report incorrect.)

S. C., Union.—City, L. C. Wharton, Mayor, votes Feb. 16 on $25,000 bonds to extend water and sewer mains and secure increased water supply; includes extension of 4 mi. 8-in. water main, and pumping station; work to be done by city force; will need pipe. (See Machinery Wanted.)

Tex., Austin.—City Council appropriated $10,000 to improve and extend water service. Address The Mayor.

Tex., Coleman.—City contemplates building reservoir; Jerry Lewis, Supt. Water-works.

Tex., Cuero.—City will extend and improve water-works; expend $5000. Address The Mayor.

Tex., Fort Worth.—City will borrow $400,000 to construct conduit line to Lake Worth reservoir and to finance necessary improvements to water-works; F. J. Von Zuben, City Engr. (Lately noted.)

Tex., Pecos.—City let contract A. T. Muller to lay 1500 ft. 8-in. water mains in business section; tank and tower for water system has been completed and well drilled. (Lately noted as having let contract to build reservoir at Sand Lake.)

Va., Dublin.—City voted $5000 bonds to extend water-works and curb streets. Address The Mayor. (Lately noted.)

Va., Gordonsville.—City will enlarge reservoir on Cameron's Mountain, 1½ mi. from city; about 1000 yds. concrete and 3000 yds. earth; W. H. Sindlinger, Chrmn. Water Comm., receives bids until Feb. 15; J. L. T. Sneed, Secy. Trustees. (See Machinery Wanted.)

W. Va., Bridgeport.—City is reported to have voted $23,500 water-works and sewer bonds. Address The Mayor.

W. Va., St. Marys.—City is reported as planning to construct reservoir; estimated cost $8000; J. H. McBride, City Recorder.

WOODWORKING PLANTS

Ala., Foley—Vehicles.—J. H. Garland will build vehicle factory to replace burned plant.

Ark., Pine Bluff—Flooring.—Arkansas Oak Flooring Co. organized; L. N. Anson, Prest., Merrill, Wis.; Geo. M. Anson, V.-P.; H. W. Coles, Secy. and Mgr.; J. W. Reynolds, Treas.; arranged for all building construction, machinery and equipment. (Lately noted incptd., capital $50,000, to build oak flooring plant with daily capacity 30,000 ft.)

Ky., Whitesburg—Spokes.—Geo. W. Gilbert is reported to secure hickory timber on Colly and Cowan Creek, and to install spoke factory.

Miss., Canton—Boxes.—Canton Box Factory (Homer Rhymes, formerly of Crystal Springs, Miss., interested) is reported to build box factory to cost about $10,000.

Miss., Minter City—Staves. — Canal Lake Stave & Lumber Co., capital $10,000, incptd. by C. M. Davis, J. J. Jones and others.

N. C., Greenville — Furniture.—Greenville Furniture Co., capital $20,000, incptd. by A. E. Little, M. H. Wallace and W. F. Forrest.

N. C., Norlina—Sash, Doors, etc.—R. S. Register, J. C. Hardy and others are interested in securing establishment of sash, door and blind factory.

N. C., Watha—Lath and Shingles.—Cape Fear Lath & Shingle Co., 113 S. Front St., Wilmington, N. C., will be incptd.; capital stock $15,000; L. L. Lucas, Sr., Prest.; L. L. Lucas, Jr., V.-P.; W. T. Thomas, Secy.; B. H. Malpuss, Treas. and Mgr.; install saw, lath and shingle mills; cost $13,500; one location at present; manufacture lath, shingles and lumber, 15,000 each; will establish 2 other mills at later date; needs machinery. (See Machinery Wanted.)

Tex., Dallas—Cooperage. — Dallas Cooperage & Woodenware Co., capital stock $30,000, incptd. by K. J. Kivlen, D. A. Kivlen and C. A. Kivlen.

Tex., Galveston — Woodworking. — Island City Woodworking Co. will build mill at 1801 Avenue C; concrete walls; composition gravel roof; estimated cost $4500.

Va., Lawrenceville—Furniture. — New Jersey School & Furniture Co. of Trenton, N. J., is reported to have purchased site on which to build branch plant.

Va., Newport News—Furniture.—Newport News Furniture & Pattern Mfg. Co. organized by W. H. King, Jr., Benj. F. King and W. A. Spruill; has building at 33d St. and Jefferson Ave.

FIRE DAMAGE

Ala., Dothan.—Joe Baker's residence; loss $3500.

Ark., Camden.—Pastime Amusement Hall, owned by Reiney & Usrey; loss $6000.

Ark., Little Rock.—Laclede Hotel, owned by John G. Fletcher estate; loss $3000.

Fla., Bradentown.—W. Johnson's residence on Sycamore St.

Fla., Pensacola.—Jos. Coleman's clothing store and poolroom; Peerless Saloon; total loss, $25,000.

Ga., Abbeville.—Thomas C. Mitchell's residence.

Ga., Claxton—C. M. Rushing Co.'s building, occupied by A. Wolpert; loss $15,000.

Ky., Eminence. — Eminence News; E. A. Gullion, publisher.

Ky., Hazel Green.—Dormitory of Christian Women's College; loss $6000.

Ky., Lexington.—Kimmell & Tinsley's candy factory at 824 W. Main St.; loss $12,000.

La., Alexandria.—C. N. Adams' brick factory; loss $12,000.

La., Shreveport.—A. Cauten's residence; loss $8000.

La., Morgan City. — H. F. Belanger's building.

La., Sinsboro.—J. F. Schull's store, owned by J. B. Bryant; W. Cooper's dwelling; building owned by A. F. and A. M.

Md., Baltimore.—Louis H. Rettberg's sausage factory at 2819 Pennsylvania Ave. damaged; estimated loss, $3000.

Miss., Dublin.—J. W. Lawler's business block; loss $20,000.

Miss., Grenada. — H. B. Jacobs & Co.'s store; loss about $12,000.

Miss., Hattiesburg. — V. A. Dennis' residence on Concart St.

Miss., Lucedale.—Van McAuley's stable; garage owned by Drs. Dorsett and Eley; loss $6000.

Mo., Chaffee.—Frisco Hotel; Levi Bechtel's building; Roberts' Restaurant; Martin Hotel; Charles Marrett's barber shop; loss $13,300.

Mo., Sedalia.—Le Grande Garage; estimated loss $6000.

Mo., Warrensburg.—A Spiess' store; Thos. Dollin's building; Hickman Mercantile Co.'s store; Montgomery & Golay's store; loss $60,000.

Mo., Webb City.—J. W. Weaver's mining mill; estimated loss $20,000.

N. C., Asheville. — L. Blomberg's store building, owned by Mrs. N. A. Reynolds.

N. C., Henderson. — Henderson Grain & Feed Co.'s plant on Garnett St.; reported loss, $10,000.

N. C., Leens, P. O. at Parmele.—H. A. Gray's store, loss $7500; Atlantic Coast Line Ry.'s warehouse (E. B. Pleasants, Ch. Engr., Wilmington, N. C.)

Okla., Chickasha.—C. L. Wood's residence; loss $8000.

S. C., Patrick.—J. G. Gainey & Son's store; J. E. Williams' store.

Tenn., Camden. — J. S. Madrey & Sons' electric-light plant; loss $2500.

Tenn., Darden.—Parker & Son's store; loss $6000.

Tenn., Tiptonville.—John B. Hopson's gin and cotton-house; estimated loss, including cotton, $10,000.

Tex., Austin.—D. M. Pollard's residence at 52 Edge Cliff Terrace, Travis Heights; loss $4000.

Tex., Cleburne.—Cramer, Hodo & Williams Co.'s warehouse.

Tex., Dallas.—O. R. Olsen's residence at 135 Waverly Drive, Oak Cliff; loss $2800.

Tex., Dallas. — Dick Miller's residence at 2433 Ferris St.; loss $3000.

Tex., Ennis.—Feagins & Atwood's gin; estimated loss, $10,000.

Tex., Fort Worth.—W. T. Waggoner's building at 812 Houston St.; loss $5000.

Tex., Fort Worth.—Lewis Garage and Pulliam Dancing Academy at 3d and Throckmorton Sts., loss $20,000; Puckett Furniture Co.'s building at 308 Houston St., loss $5000.

Tex., Guda.—Guda Mercantile's store; loss $6000.

Tex., Hondo.—Water-works owned by Isaac Wilson; loss $4000.

Tex., Houston.—J. L. Dupy's residence at 1703 Bringhurst St.; loss $4000; W. F. Jackson's residence at 2705 E. Montgomery St.

Tex., Miguel.—W. L. Cross' gin; loss $4000.

Tex., Mineral Wells.—Buildings occupied by Crenshaw Fruit Co., Owl Cafe and South Side Market, and owned by Geo. T. Reynolds, Fort Worth, Tex., loss about $10,000; Hamilton & Ensey Grocery Co.'s store, owned by J. J. Kelly, Fort Worth, Tex., loss $3000.

Tex., Plano.—Plano Milling Co.'s plant; loss on mill, $65,000; loss on warehouse and stock of flour, $7500.

Tex., Van Alstyne.—L. Garver's mill and elevator; loss $14,000.

Tex., Vernon.—Waggoner National Bank; Massie Bldg.; loss $5000.

Tex., Yoakum. — Shropshire Drug Co.'s store; loss $25,000.

W. Va., Pennsboro.—People's Store; Martin's Hotel and Restaurant; Lambert Auto Co.'s building; Pennsboro News building.

WRECKED BY EXPLOSION

Ky., Irvine. — Estill County Courthouse; loss $5000. Address County Commrs.

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT-HOUSES

D. C., Washington.—Harry Wardman, 1430 K St. N. W., is having plans prepared by F. R. White, 1430 K St. N. W., Washington, for aparement-house at Connecticut Ave. and Garfield St.; 3 stories and English basement, 40x80 ft.; brick and concrete; slag roof; steam heat; electric light; cost about $30,000; construction by owner.

Fla., Miami.—J. E. Jolly is erecting store and apartment building. (See Stores.)

Fla., Tampa.—Mrs. Josephine Parslow is having plans prepared for store and apartment building. (See Stores.)

Md., Baltimore. — Exchange Realty Co., Ridgley Gaither, Prest., 411-13 Gaither Bldg., will convert dwelling at Calvert and Chase Sts. into apartment-house; cost about $10,-

888; Walter M. Gieske, Archt., 66 Gunther Bldg., Baltimore.

Md., Easton.—Tred Avon Apartments incorporated by Murray Lloyd Goldsborough, Edgar B. Ward, both of Annapolis, and Geo. R. Veasey, Baltimore; having plans prepared by Brinckloe & Canning, Easton, for apartment-house; fireproof.

Miss., Clarksdale.—Kaufman & Goldstein are reported to erect apartment-house on Issaquena Ave.

Mo., St. Louis.—R. B. Bullock will erect store and tenement-house. (See Stores.)

Mo., St. Louis—C. Degenhardt will erect store and tenement-house. (See Stores.)

Mo., St. Louis.—J. F. Leibinger will erect 2-story tenement-house at 3446-48 Miami St.; cost $5000; construction by owner.

Mo., St. Louis.—Frein Building & Construction Co. will erect 2-story brick tenement-house at 3820 Laclede St.; cost $6000; construction by owner.

Tex., Dallas.—S. Kirkgard will erect apartment-house on Junius St., Munger Pl.; cost $20,000.

Tex., Dallas.—Commercial Investment Co. will erect apartment-house; 4 suites; asbestos shingle roof; mill construction; cost $12,000; construction begun; W. W. Graham, 1004 Commerce St., may be addressed. (Lately noted.)

Tex., Beaumont.—P. H. Weiss will erect two 20-room apartment-houses; cost $4600 each.

Tex., Beaumont.—Mrs. Bena Jones will erect 20-room stucco apartment-house; cost $5000.

Tex., El Paso.—Victor Carusso will erect apartment-house at Montezuma St. and Prospect Ave.; 2 stories and basement; brick; 8 4-room suites; cost about $40,000.

Va., Richmond.—Louis Keppler estate will erect 2-story tenement-house at 2412 E. Marshall St.; cost $9000.

W. Va., Huntington.—L. J. Ashworth has plans for store and apartment-house. (See Stores.)

ASSOCIATION AND FRATERNAL

Ala., Birmingham.—Magic City Camp, W. O. W., plans to erect building; probably 4 stories.

Ark., Pine Bluff.—A. F. and A. M. plan to erect Masonic temple; 4 stories.

Mo., St. Louis.—Woodmen of the World will erect building; 3 stories; 100x150 ft.; concrete, terra-cotta and brick; F. H. Seelig, Archt., St. Louis; E. W. Weber, Secy. of Central Camp.

Mo., Springfield. — Managers of Missouri Pythian Home have plans for dormitory addition; estimated cost $40,000; Bert E. Woolsey, Secy.

N. C., Winston-Salem.—Y. W. C. A. plans to erect building; roof garden, swimming pool, sleeping porches, dormitory to accommodate 100 or more, etc., included in plans; cost $20,000.

BANK AND OFFICE

Ark., Calico Rock.—W. J. Copp, Drs. A. D. Matthews and H. H. Smith will erect office building; 1 story; frame; 7 rooms.

Ala., Jasper.—Phillips & Stanley have plans to remodel building for stores and offices. (See Stores.)

Ark., Heber Springs. — Cleburne County Bank, W. L. Thompson, Prest., will erect building to replace structure lately noted burned.

Ark., Monticello.—Citizens' Bank will erect 2-story bank building.

Miss., Clarksdale.—Hopson & Peacock are reported to erect 7-story brick and concrete office building.

Mo., St. Louis.—Lafayette and South Side Banks consolidated, and will erect 1-story bank building with frontage of 90 ft. at Broadway and Lafayette Ave.

Okla., Ringling.—First State Bank, J. F. Stotts, Cash., will erect building at Main and 5th Sts.; 25x70 ft.

Tenn., Chattanooga. — Chattanooga Trust Co. has plans by Stewart & Johnson, Chattanooga, for building at 6th and Broad Sts.; 2 stories; brick; cost $4500; construction in charge of architects.

Tex., San Antonio.—Central Trust Co., J. O. Terrell, Prest., will not at present erect building. (Lately noted to have acquired site.)

Va., Coeburn.—Miners' Bank of Commerce is having plans prepared by Pedigo & Garry, Bluefield, W. Va., for bank building; cut stone and press brick exterior; interior finished in marble and hardwood; ordinary construction; 25x65 ft.; ordinary construction; composition roof; hot-water or vapor heat; electric lights; cost $20,000; construction to begin Apr. 1. (Previously noted.)

CHURCHES

Ark., Gurdon.—Convention Baptist Church will erect building in Crescent Heights; cost about $3000. Address The Pastor.

Ga., Atlanta.—Ponce de Leon Ave. Methodist Episcopal Church postponed erection of church building lately noted; Rev. C. J. Yeisley, pastor.

Ga., Savannah. — St. John's Episcopal Church will remodel interior of church and parish-house; provide sliding partitions, mezzanine floor, etc. Address The Rector.

Ga., Tallapoosa. — Methodist Episcopal Church will remodel building. Address The Pastor.

Md., Baltimore.—Grace M. E. Church, Rev. M. H. Lichliter, Pastor, 1119 W. Lanvale St., will remodel church building and parsonage; enlarge kitchen, making additional exits, refresco Sunday-school room, repaint church and parsonage; cost about $4000; Ellicott & Emmart, Archts., 1102 Union Trust Bldg., Baltimore.

Md., Cumberland.—Pentecostal Assembly, Rev. R. V. Clark, pastor, will erect church and parsonage.

Md., Pikesville.—Ames Chapel, M. E., Rev. E. T. Mowbray, pastor, contemplates erecting addition to church building; stone; cost about $5000.

N. C., Durham.—First Presbyterian Church, Rev. E. R. Leyburn, pastor, engaged Milburn, Heister & Co., Union Savings Bank Bldg., Washington, D. C., as architects for church building on Main St.; cost $80,000. (Lately noted.)

N. C., Kinston.—Freewill Baptist Church has plans by Will Lewis, Dentis St., Kinston, for building on E. Blunt St.; 42x71 ft.; ordinary construction; slate roof; heating plant to cost about $400; lighting plant, $1250; sidewalk, $750; subcontracts for plumbing, electric lights and heating plants; no proposals; day work, supervised by archi tect; total cost $12,000.

N. C., Winston-Salem.—Reformed Church of United States will erect building at Banner Ave. and Holly Rd.; Rev. D. E. Bowers, Waughtown, Station R, Winston-Salem, acting pastor.

S. C., Charleston.—J. D. Newcomer, Archt., Charleston, receives bids until Feb. 8 to erect brick and frame church at King and Frances Sts. for Memorial Baptist Church Institute; separate bids for construction proper, electrical work, plumbing and gas piping and steam heating; plans and specifications at office of Mr. Newcomer.

S. C., Rock Hill.—First Baptist Church has plans by J. S. Starr, Rock Hill, for building; 56x108 ft.; brick; heating undecided; electric lights; cost $12,000; construction by day labor. Address architect. (See Machinery Wanted.)

Tex., Beaumont. — St. Mark's Protestant Episcopal Church has plans by Cram & Ferguson, 1110 Scanlan Bldg., Houston, for parish-house on Clader Ave.; 40x90 ft.; Spanish tile roof; steam heat; cost $28,000; will let contract Feb. 8. (Lately noted.)

Tex., Dallas. — Dallas Greek-American League plans to erect church building.

Va., Portsmouth. — Parkview Baptist Church, Rev. Mr. Arendell, pastor, plans to erect building.

Va., Stuart.—J. C. Shockley, Secy. of Building Com. of M. E. church, receives bids until Feb. 1 to erect brick church building; 50x90 ft.; ordinary construction; slate roof; heating plant not decided; acetylene lighting plant; cost $9000; plans and specifications at office of J. W. Hopper, Archt., Danville, Va.

CITY AND COUNTY

D. C., Washington—Engine-house.—District Commrs. will have plans prepared by Snowden Ashford, 1617 21st St., Washington, for engine-house on Connecticut Ave., between Ordway and Porter Sts.; also selected site for truckhouse on New Jersey Ave., between D and E Sts. N. W., and will soon have plans prepared. (Previously noted.)

Ky., Whitesburg—Armory.—Letcher Fiscal Court will erect armory for Whitesburg Company, Kentucky National Guard; bids received until Feb. 8; cost $6000.

La., New Orleans—Office, etc. — Dept. of Public Finance, Accounting Division, receives bids until Jan. 29 to erect 2-story frame office and toolhouse in West End Lake Shore Park; plans and specifications at office of City Engr.

Miss., Macon—Home.—Board of Supervisors, Jno. A. Tyson, Chancery Clerk, receives bids until Feb. 1 to erect and furnish dining-room at County Home; plans and specifications at office of Mr. Tyson.

Mo., Kansas City—Fire Stations, etc.—City contemplates voting, probably within 60 days, on $200,000 bonds for fire stations and equipment, and $150,000 bonds for police stations; $150,000 for additions and improvements to General Hospital and $100,000 for Board of Public Welfare, for municipal farm and woman's reformatory; Henry J. Jost, Mayor. (See Road and Street Work.)

N. C., Halifax—Jail, etc.—Halifax county is having plans prepared by Frank B. Simpson, Raleigh, N. C., for jail and jailer's residence; fireproof; composition roof; cost $20,000; bids opened about March 1. (Lately noted at Scotland Neck, N. C.)

S. C., Easley—City Hall.—City will erect city hall; 40x40 ft.; ordinary construction; metal roof; heating plant; electric lights; cost about $3000; J. T. Lathem, Mayor. (Lately noted.)

Tenn., Nashville—Fair and Asylum Buildings.—Legislature is considering bill authorizing Davidson county to issue $100,000 bonds to erect buildings on county asylum grounds, woman's building on State fair grounds and payment of bonds and interest. Address County Commrs.

Tex., Fort Worth—Jail.—Tarrant County Commrs. selected Sanguinett & Staats, First National Bank Bldg., Fort Worth, as architects for jail. (Lately noted.)

COURTHOUSES

Ga., Claxton.—Evans County Commrs. selected site to erect courthouse; H. L. Brewton, Dr. Ben E. Daniel and K. B. DeLoach, Commrs.

S. C., Greenville.—Greenville county voted to expend $60,000 to remodel courthouse; will request Legislature for authority. Address County Commrs. (Lately noted.)

Tenn., Camden.—Benton County Commrs. will erect courthouse; about 60x100 ft.; fireproof; red tile or slate roof; cost $30,000 to $35,000; heating plant about $3000; construction to begin about April 1; W. D. Cooper, Chrmn. of Bldg. Com., may be addressed. (Lately noted.)

DWELLINGS

Ala., Birmingham.—Robt. N. Bell is having plans prepared by H. D. Breeding, Birmingham, for 2 residences at Fulton Springs.

Ala., Birmingham.—A. P. Stephens is having plans prepared by R. E. Posey, Birmingham, for residence; 2 stories; brick veneer.

Ala., Birmingham.—J. G. Whitfield is having plans prepared by Harry B. Wheelock, Birmingham, for residence; 2 stories; brick veneer.

Ala., Birmingham.—I. M. Crum will erect residence; 2 stories; frame; cost $3000; day labor.

Ala., Birmingham.—Birmingham Realty Co. is erecting residence for F. H. Smith; 2 stories; frame; furnace heat; cement tile roof; oak floors; tiled porch and bathrooms; cost $5000; Sidney M. Ulman, Archt., 302 Chamber of Commerce Bldg., Birmingham.

D. C., Washington.—Mrs. John B. Henderson, it is reported, will have plans prepared by George Oakley Totten, Jr., 808 17th St. N. W., Washington, for dwellings near 16th St. and Florida Ave.; cost $100,000.

D. C., Washington.—M. T. Calaway is having plans prepared by Clarke Waggaman, 1211 Connecticut Ave. N. W., Washington, for residence at 2116 LeRoy Pl.

D. C., Washington.—D. J. Dunigan, 22 Bond Bldg., has plans by B. Stanley Simmons, 1340 New York Ave., Washington, for dwelling at 1638 16th St. N. W.; 4 stories; 39x20 ft.; brick; tin roof; hot-water heat; electric light; cost $10,000; construction by owner.

Fla., Allendale.—Otis Johnson will erect 2 bungalows.

Fla., Clearwater.—Henry A. Rich, formerly of Portland, Me., will erect residence in Magnolia Park.

Fla., Clearwater.—Donald Alvord will erect residence; 2 stories; tapestry brick to window lines, with siding above; screened sleeping porches; Lester Avery, Archt., Clearwater.

Fla., Clearwater.—J. D. Davidson is having plans prepared by Sargent Hamilton, Clearwater, for bungalow in Magnolia Park.

Fla., Jacksonville.—Carwood & Collier will erect 1-story residence to cost $2800.

Fla., Jacksonville.—J. W. Hill will erect 2-story frame building on St. John's Ct.; cost $3500.

Fla., Port Sewall, P. O. at Sewalls Point.—Hugh L. Willoughby will erect dwelling; 52x52 ft.; fireproof; concrete; Spanish mission style; cost $5000; plans by owner; no contractor to be employed; construction begun.

Fla., Tampa.—Z. N. Parker has plans by Wm. L. Redditt, Tampa, for residence.

Fla., Tampa.—Dorsey McMichael will erect 2-story 7-room residence on S. Delaware Ave.; cost $3500; A. H. Johnson, Archt., Tampa.

Ga., Atlanta.—E. M. Chapman will erect 1-story frame dwelling at 116 Penn Ave.; cost $3500.

Ga., Atlanta.—E. A. Hartsock, 905 Fourth National Bank Bldg., will erect 2 residences at 17-19 Maud St.; 1 story; 5 rooms and bath; ordinary construction; shingle roof; grates; electric lights; cost $3000; plans and construction by owner. (Lately noted.)

Ga., Atlanta.—J. J. Disosway will not erect dwelling this year. (Lately noted.)

Ga., Atlanta.—A. H. Bailey will erect 2-story frame dwelling at 297 N. Boulevard; cost $6000; day labor.

Ga., Augusta.—Edgar P. Sawyer, Oshkosh, Wis., will erect 2 residences on The Hill.

Ga., Columbus.—Mrs. C. B. Grimes is having plans prepared by Chas. F. Hickman, Exchange Bldg., Columbus, for residence; Dutch colonial style; metal roof.

Ga., Decatur.—J. R. Black will erect residence on S. Candler St.

Ga., Hartwell.—Mrs. Samuel Stocking will erect residence on Howell St.

Ga., Hartwell.—Mrs. M. L. Satterfield will erect residence.

La., New Orleans.—Mrs. Ed. Rosenberg will erect residence on St. Charles Ave.

La., New Orleans.—Dixie Building & Loan Assn. will erect 2-story residence; cost $5600.

La., New Orleans.—R. Oliver will erect 2-story residence to cost $3280.

Md., Baltimore Co.—Mrs. Wm. M. Manly is having plans prepared by Laurence H. Fowler, 347 N. Charles St., Baltimore, for dwelling in Green Spring Valley; brick; slate roof; steam or hot-water heat; electric light; plans ready about Feb. 20.

Md., Baltimore.—Abell Building Co., 422 Equitable Bldg., has plans by Stanislaus Rissuell, 2900 Clifton Ave., Baltimore, for 5 dwellings on 30th St. near Guilford Ave.; 2½ stories, 24x36 ft.; brick; slag roof; steam heat; gas and electric light; cost about $2800 each; construction by owner.

Md., Baltimore County.—Robt. Garrett has plans by Riggin Buckler and Howard Sill, 11 E. Pleasant St., Baltimore, to repair dwelling; cost about $3000.

Md., Bethesda.—Miss Hackett is having plans prepared by Flournoy & Flournoy, 700 Wilkins Bldg., Washington, D. C., for dwelling; 2 stories, 26x26 ft.; frame, stucco; slate roof; hot-water heat; electric light; cost about $3000; plans ready about Feb. 8.

Md., Bradley Hills (not a postoffice).—Elace V. Simpson, 1419 Foxhall Rd., Washington, D. C., will erect 5 dwellings; 37x44 ft.; frame; slate roof; hot-air heat; electric light; cost about $2500 each; Speiden & Speiden, Archts., 1403 New York Ave., Washington. (Previously noted as 2 dwellings.)

Mo., Kansas City.—Edwin P. Chester, Mgr. of Law & Credit Co., will erect residence at 55 E. 53d-St. Ter.

Mo., Kansas City.—Wm. E. Gill, Cash. of State Bank of Kansas City, will erect residence 6 E. 58th St.

Okla., Atoka.—J. W. McClendon will let contract about Mch. 1 to erect residence; 2 stories; brick, stone and marble; green slate roof; electric fixtures; hot-water or steam heat; cost $8000; Jewell Hicks, Archt., Durant, Okla.; owner is receiving bids.

Okla., Okmulgee.—Alex. Johnson will erect residence; cost $3000.

Okla., Okmulgee.—Dr. Terrance is erecting $3000 residence.

Okla., Okmulgee.—H. M. Harjo is erecting residence; cost about $3500.

Oka., Oklahoma City.—Wm. Nance has plans by Stewart & Wilderson, 503-507 American Bank Bldg., Oklahoma City, for 2 dwellings on W. 21st St.; 28x48 ft.; ordinary construction; shingle roof; furnaces to cost $175 each; electric lights; cost $5000; bids opened Jan. 25; address architect.

Okla., Okmulgee.—Mrs. N. A. Dale is erecting residence to cost about $3500.

Okla., Okmulgee.—Mrs. Dan Collins is erecting 2 dwellings; cost $9000.

Okla., Okmulgee.—N. Hart is erecting $4000 residence.

Okla., Okmulgee.—Robt. Hamilton will erect

2-story brick residence; cost $7500; construction begun.

S. C., Orangeburg.—Edw. S. Bruner will erect bungalow to replace dwelling lately burned.

S. C., Rock Hill.—Cidney Adams has plans by J. S. Starr, Rock Hill, for residence; 42x75 ft.; ordinary construction; electric lights; cost $3500; will open bids Feb. 1. Address architect.

Tenn., Knoxville.—A. A. Chabble has plans by R. F. Graf & Sons, Knoxville, for dwelling; 10 rooms; steam heat; cost $15,000. (Lately noted.)

Tenn., Knoxville.—Dr. J. B. Jones is having plans prepared by R. F. Graf & Son, Knoxville, for dwelling; 10 rooms; tile roof; hot-water heat; cost $17,000. (Lately noted.)

Tenn., Nashville.—W. B. Moody will erect 2-story frame bungalow with wood roof at 1109 Caruthers Ave.; cost $3000.

Tex., Childress.—W. A. Pancake has plans by Parker & Rittenberry, 1309½ Main St., Dallas, for residence; 6 rooms; brick; cost $3500; owner will do buying.

Tex., Dallas.—Mrs. Annie L. Jackson will erect 2-story 8-room frame residence at 5331 Rowena St.; cost $2900.

Tex., Dallas.—Mrs. P. B. Bayless will erect 2-story 8-room frame residence at 3830 Bowser St.; cost $5500.

Tex., El Paso.—Phoenix-El Paso Building Co. will erect 2-story brick and tile residence; cost $4000.

Tex., Fort Worth.—McDaniel-Jay Co. will erect residence at 2244 Alston Ave.; cost $3000.

Tex., San Antonio.—W. A. Baity will erect 10 and 5-room dwellings on Mulberry St.; cost $4600.

Va., Norfolk.—Mrs. Virginia S. Fiveash will erect 2-story brick and frame residence; cost $6000.

Va., Richmond.—Davis Bros. will erect 2 2-story brick dwellings on Boulevard between Main and Floyd Ave.; cost $12,000.

Va., Richmond.—Powhatan Nash will erect 2-story brick dwelling on 4th Ave.; cost $4450.

W. Va., Henry.—Davis Coal & Coke Co., A. W. Calloway, Prest., Cumberland, Md., is reported to erect 26 dwellings for employes.

GOVERNMENT AND STATE

Fla., Jacksonville—Postoffice Substation.—Atlantic National Bank has plans by Mark & Sheftall, 210 Clark Bldg., Jacksonville, for postoffice substation on W. Bay St.; 42x150 ft.; 2 stories; ordinary construction; steam or gas-steam system of heating; freight elevator; dumbwaiter; cost $15,000; opens bids Feb. 10; furnished and equipped as per Government requirement. (Lately noted.)

Md., Baltimore—Armory.—Armory Commission, Harry C. Jones, Chrmn., Chamber of Commerce, selected site at northeast corner Maryland and North Aves., 246x303 ft., as location of Fourth Regiment Armory; will ask Legislature for $450,000 appropriation. (Previously noted.)

Md., Indian Head—Dryhouses.—Bureau of Yards and Docks, Navy Dept., Washington, D. C., receives bids until Feb. 13 to erect dryhouses for smokeless powder at Naval Proving Ground; wood-frame construction; concrete foundation; walls and roofs covered with corrugated steel; interior walls of main building only covered with sheet steel; heaters and coils for heating drying bins; dryhouse 28 ft. 2 in. x 41 ft. 5 in.; shed 13 ft. 6 in. x 41 ft. 5 in.; plans and specifications on application to bureau; H. R. Stanford, Ch. of Bureau.

Mo., Booneville — Postoffice. — Treasury Dept., Oscar Wenderoth, Supervising Archt., Washington, D. C., opens bids Jan. 30 to erect postoffice.

Mo., St. Louis—Custom-house.—Treasury Dept., Oscar Wenderoth, Supervising Archt., Washington, D. C., opened bids to remodel custom-house; North St. Louis Building & Material Co., St. Louis, is lowest bidder at $25,772. (Lately noted.)

S. C., Port Royal—Barracks.—Bureau of Yards and Docks, Navy Dept., Washington, D. C., receives bids until Feb. 20 to repair roofs of buildings Nos. 11, 18 and 19 at U. S. Naval Disciplinary Barracks; $2800 available; buildings 248x50, 240x92 and 120x60 ft. approximately; plans and specifications from bureau and commanding officer of barracks; H. R. Stanford, Ch. of Bureau.

Tex., Clarksville — Postoffice. — Treasury Dept., Oscar Wenderoth, Supervising Arct., Washington, D. C., opens bids Jan. 29 to erect postoffice.

HOSPITALS, SANITARIUMS, ETC.

Ala., Lafayette.—Dr. Gain will erect sanitarium to replace structure burned at loss of $8000 to $10,000.

Ala., Opelika.—Dr. I. W. Ballard is promoting erection of hospital.

Fla., Miami.—City plans to erect hospital to cost about $30,000; Dr. James M. Jackson, Prest. Board of Health.

Md., Easton.—Emergency Hospital will open bids and let contract Feb. 20 to erect hospital; about 110x40 ft., with boiler-room extension; brick walls; frame interior; slate roof; steam heat; electric lights (town current); hand-power elevator; one contract to be let for entire work; Guy King & Co., Archts., 1513 Walnut St., Philadelphia, Pa. Address Hampton Howell, Easton. (Previously noted.)

Mo., Kansas City.—City contemplates voting, probably within 60 days, on $150,000 bonds for additions and improvements to General Hospital; Henry J. Jost, Mayor. (See Road and Street Work.)

Okla., Drumright.—W. P. Dilts, it is reported, plans to erect hospital building.

Tex., Wichita Falls.—City and Wichita county acquired site on 8th St. for joint city and county hospital, for which $50,000 bonds were sold. Address The Mayor.

Va., Lynchburg.—Virginia State Epileptic Colony, Dr. A. S. Priddy, Supt., will erect 2 dormitories; cost $27,000.

HOTELS

Fla., Bee Ridge. — Sarasota-Venice Co., Honore Palmer, Secy., Sarasota, Fla., will erect hotel.

Ky., Olympian Springs (not a postoffice).—W. H. Jones, Glasgow, Ky., Frank A. Best, Jeffersonville, Ind., and others acquired Olympian Springs Hotel property, will install bottling plant and make other improvements.

Okla., Paden.—D. Goloob is reported to erect brick hotel.

Tex., Greenville.—W. L. Beckham lets contract about Mch. 1 to erect hotel; 3 stories; 109x150 ft.; tar and gravel roof; marble, brick and terra-cotta; vacuum steam heat; electric elevators; cost $80,000; H. B. Macklin, Archt., Greenville. (Lately noted.)

MISCELLANEOUS

Ark., Little Rock—Grandstand, etc.—Chamber of Commerce and Board of Trade are interested in erection of grandstand and other improvements at West End Park; Bob Allen, Mgr. of Little Rock Baseball Club.

Fla., Jacksonville — Exhibit.— Agricultural and Market Bureau Com. has plans by W. B. Camp, Jacksonville, for agricultural exhibit building.

Ga., Atlanta — Clubhouse. — Ansley Park Golf Club will erect clubhouse.

Mo., St. Louis—Clubhouse.—Missouri Athletic Assn. will receive bids from general contractors until Feb. 11 to erect clubhouse; Wm. B. Ittner and G. F. A. Brueggeman, Archts., Third National Bank Bldg., St. Louis; structure to be of Ste. Genevieve limestone or Bedford stone; fireproof; 112x150 ft.; 10 stories; composition roofing; heating plant to cost $50,000; electric elevator to cost $20,000; foundation started; total cost $600,000. (Lately noted.)

Tenn., Knoxville — Library. — Lawson-McGhee Library Trustees, Col. L. D. Tyson, Chrmn. of Com., open bids in about 60 days to erect library at Market and Commerce Sts.; 72x105 ft.; 2 stories; ordinary construction; tile roof; steam heat; electric lights; cement sidewalks; cost $60,000; Grant C. Miller, 6 N. Michigan Ave., Chicago, and A. B. Baumann, Knoxville, Archts. Address Mr. Baumann or Colonel Tyson. (Lately noted.)

W. Va., Clarksburg—Resthouse.—Hazel-Atlas Glass Co. will erect resthouse for employes; brick; 40x60 ft.; 18 ft. high; concrete floors; cost $5000.

RAILWAY STATIONS, SHEDS, ETC.

Ark., Goodman.—See Okla., Stillwell.

Fla., Bee Ridge.—Seaboard Air Line Ry., W. D. Faucette, Ch. Engr., Norfolk, Va., will erect brick and tile depot.

La., Shreveport.—Louisiana Ry. & Navigation Co., Wm. Edenborn, Prest., New Orleans, La., plans to expend $750,000 to erect storage warehouses and other facilities.

Okla., Sallisaw.—See Okla., Stillwell.

Okla., Stillwell.—Kansas City Southern Ry. Co., C. E. Johnston, Ch. Engr., Kansas City, will erect depots at Stillwell and Sallisaw, Okla., and Goodman, Ark.

SCHOOLS

Alabama.—T. N. & I. Institute is having plans prepared by W. A. Rayfield & Co., P. O. Box 649, Birmingham, for 25 schools throughout State; ordinary construction; wood shingles and composition roof; stoves; cost $500 to $3000 each; construction to begin March or April; architects may be addressed.

D. C., Washington.—Dist. Commrs. are having plans prepared by Snowden Ashford, Municipal Archt., Municipal Bldg., for public school at 7th and Newton Sts.; 16 rooms; 2 stories and basement; 189x82 ft.; fireproof; brick and concrete; slag on concrete roof; hot-air-blast heat; electric lights; cost about $130,000.

Fla., Alva.—Wm. L. Redditt, Tampa, Fla., prepared plans for proposed high school.

Fla., Bartow.—Special Tax School Dist. No. 9 votes Feb. 16 on $6000 bonds to erect and equip school; C. A. Parker, Secy. Board of Public Instruction.

Fla., Chipley.—City will soon call for bids to erect high school; also remodel present structure.

Fla., Fellsmere.—Special Tax Dist. No. 14 votes Feb. 16 on $25,000 bonds to erect school; G. A. Seager, Chrmn., Fort Pierce, Fla. (Lately noted.)

Fla., Fort Pierce.—Father Gabriel is erecting school; 105x42 ft.; 2 stories; fireproof; cement tile roof; gas-steam heating plant; electric lights; cost $40,000; completion by Mch. 1; will also soon begin construction of convent building.

Fla., High Springs.—High Springs School Dist. voted $6000 bonds for schools. Address District School Trustees.

Fla., Milton.—Milton-Bagdad School Dist. will vote on $20,000 bonds to erect school. Address Dist. School Trustees.

Fla., Pinellas Park.—Dixie M. Hollis, County Supt., Clearwater, Fla., receives bids until Feb. 2 to erect brick school; plans and specifications from Mr. Hollis at Clearwater and H. W. Wendell, Archt., Gulfport. (Lately noted to cost about $6000.)

Fla., Tavares. — Tavares Special School Dist. No. 18 voted $15,000 bonds for schools. Address District School Trustees.

Ga., Atlanta.—Methodist Episcopal Church South, Bishop Warren A. Candler, Chrmn. of Com., will probably begin erection of university buildings in spring. (Previously noted.

Ga., Hawkinsville.—City votes Feb. 17 on $15,000 bonds to improve, enlarge and erect schools; G. W. Jordan, Mayor.

La., Fenton.—Jefferson Davis School Board, W. P. Arnett, Secy., Jennings, La., has plans by A. H. Humphrey, Room 5, Bloch Bldg., Lake Charles, La., for high school; 40x58 ft.; 2 stories; brick exterior, wood joists, floors, etc.; Barrett specification or asbestos shingle roofing; schoolroom heaters; bids opened Jan. 27; cost $7000. Address architect. (Lately noted.)

La., New Orleans.—St. Aloysius College is erecting gymnasium and office building; purchased additional ground for other improvements.

La., St. Gabriel.—School Trustees of 4th and 5th wards of Iberville parish will erect high school.

Miss., Clarksdale.—City is reported to erect school. Address H. B. Heidelberg, Supt. of Schools.

Miss., McLaurin.—McLaurin School Dist. receives bids until Feb. 1 to erect school; ordinary construction; composition roof; cost $7000; H. Gillis, Clerk of Supervisors, Hattiesburg, Miss., may be addressed. (Lately noted to have rejected previous bids.)

Miss., Washington.—Trustees of Jefferson Military College appointed committee with W. H. Ratcliffe, Chrmn., to consider plans and specifications for fireproof dormitory to replace burned structure; R. A. Burton, Supt. (Lately noted.)

Mo., Kansas City.—Board of Directors of Kansas City School Dist., Jas. B. Jackson, Secy., receives bids until Feb. 1 to erect Kensington School at Poplar Ave. and 17th St.; Feb. 4 to erect Wm. Cullen Bryant School at 57th St. and Broadway, and Feb. 6 to erect Mark Twain School between 59th Terrace and 60th St. east of Swope Parkway; plans and specifications at office of Chas. A. Smith, Archt., 602 Finance Bldg., Kansas City.

N. C., Corlina.—City will petition Legislature for authority to issue bonds for schools, etc. Address The Mayor. (See Waterworks.)

N. C., Reidsville.—Reidsville Graded School Dist. will petition Legislature for authority to vote on $20,000 bonds for school improvements; J. B. Pipkin, Chrmn. of Com.

Tenn., Chattanooga. — Hamilton County School Board will erect school on Rossville Boulevard, Clifton Hills.

Tenn., Fountain City.—Knox County Grammar School Board, Knoxville, Tenn., acquired site and will erect grammar school.

Tex., Galveston.—J. M. Fendley, County Supt., receives bids at office of Lane & Dowdy, Archts., 312 Trust Bldg., Galveston, and 403 Settegast Bldg., Houston, Tex., until Feb. 4 to erect 1-story-and-basement concrete, brick and hollow-tile school for Trustees of Dist. No. 1, Galveston County; plans and specifications at office of architects.

Tex., Hindes.—School Trustees have plans by Henry T. Phelps, San Antonio, for proposed school; 6 rooms; brick and reinforced concrete.

Tex., Midlothian.—City will erect addition to school at reported cost of $8000; T. M. Dees may be addresed; bids opened about May 1.

Tex., Paris.—City will erect 2 schools with proceeds of $10,000 bond issue lately noted voted; fireproof or slow combustion; probably furnace heat; other details not determined; Ed. H. McCuistion, Mayor.

Tex., San Antonio.—Board of Education has plans by Henry T. Phelps, San Antonio, for 10-classroom and auditorium school in Dist. 41 on Frio Rd., and will soon call for bids; also has plans for 10-classroom and auditorium building in Dist. No. 25 on Presa street.

Va., Appomattox.—Agricultural High School Trustees will erect dormitory.

Va., Blacksburg.—City is having plans prepared by G. R. Ragan, Roanoke, Va., for school; 8 rooms, with basement; ordinary or mill construction; metal roof; steam heat; construction begins Apl. 15 J. F. Hardenck, Clerk of School Board.

STORES

Ala., Bessemer.—James Sullivan will erect 2-story brick building on 3d Ave., between 18th and 19th Sts.; 25x140 ft.

Ala., Birmingham.—Southern Land Co. has plans by Harry B. Wheelock, Birmingham, for building on First Ave. between 18th and 19th Sts.; 4 stories and basement; 55x132 ft.; reinforced concrete and steel; fireproof; cost about $50,000.

Ala., Jasper.—Phillips & Stanley have plans by Bem Price, 518-19 Empire Bldg., Birmingham, to remodel building and construct 2-story addition; 42x60 ft.; brick; steam heat; conduit wiring; Barrett specification roof; plate-glass front; second floor, 62x136 ft., to be remodeled for offices.

Ala., Lincoln.—J. H. and W. C. Wilson are erecting brick store building.

Ark., Glenwood.—Dunsmore & Black are reported to erect brick business building.

Ark., Glenwood.—A. C. Clements is reported to erect brick business building.

Ark., Little Rock.—H. G. Clok will erect 2-story brick store at 1001 W. 7th St.; cost $5000.

Ark., Little Rock.—Mutual Real Estate Co. will erect 6 business buildings at 112-24 W. 4th St.; brick.

Ark., Little Rock.—Charles Siagel will erect store building to replace burned structure at 616-18 Main St.; 2 stories; brick; composition roof; cost about $3500.

Ark., Little Rock.—M. B. Sanders has plans by T. M. Sanders, Little Rock, for store building at 309-11 Louisiana St.; 50x140 ft.; 2 stories; mill construction; composition roofing; cost $20,000; steam-heating plant, $1500; will let contract about Feb. 1. (Lately noted.)

Ark., McGehee.—C. Brocato & Co. will erect 2-story brick business building.

Ark., Walnut Ridge.—Ed. L. Moore, Mrs. T. W. Midkiff and W. A. Dowell are reported to erect business building; 2 stories; frontage 100 ft.

Fla., Miami.—J. E. Jolly is erecting building at S. River Drive and 12th St.; 2 stories; 60x24 ft.; concrete-block walls; lower floor for stores; upper floor for apartments.

Fla., Palmetto.—T. A. Howze will erect business building; 1 story; 66x80 ft.; 3 storerooms, each 20½x80 ft.; plate-glass front.

Fla., Tampa.—Mrs. Mahoney and Mrs. Parslow are having plans prepared by Hagy & Parslow, Tampa, for building at Franklin and Jackson Sts.; 5 stories; fireproof.

Fla., Tampa.—Mrs. Josephine Parslow is having plans prepared by Hagy & Parslow, Tampa, for building at Florida Ave. and Tyler St.; 3 stories; 106x63 ft.; sand-lime brick with ornamental trimmings; lower floor for

5 stores; upper floors for 42 rooms for apartments.

Fla., St. Petersburg.—W. P. Wilkins will erect store building; 1 story; concrete blocks; 3 storerooms.

Ga., Atlanta.—C. E. Miller will erect brick store building; cost $3400; day labor.

Md., Baltimore.—Blumberg Bros. Co., 325 W. Baltimore St., will remodel building at 223-5 W. Baltimore St. for wholesale store; add 2 or 3 stories, 35.6x74 ft.; install elevator; cost about $20,000; Louis Levi, 1408 Munsey Bldg., Baltimore, probable architect.

Mo., Joplin.—Ramsay Bros. Dry Goods Co. is remodeling building, including installation of hardwood floors, doubling capacity of basement and providing new floor and steel ceiling, etc.; also plans construction of Carthage stone front.

Mo., St. Louis.—C. Degenhardt will erect 2-story store and tenement-house at 4722 Virginia St.; brick; cost $5000; construction by owner.

Mo., St. Louis.—R. B. Bullock will erect 2-story brick store and tenement-house at 4143 Hull Pl.; cost $4200; construction by owner.

N. C., Asheville.—Mrs. N. A. Reynolds will rebuild structure noted burned.

N. C., Charlotte.—E. D. Latta has plans by Wm. H. Peeps for store and office building at Tryon and 2d Sts.; 100x95 ft.; 2 stories; ordinary and steel frame construction; brick, tile and terra-cotta, with plate and prism glass fronts; ground floor area 9000 sq. ft.; lower floor for stores; upper floor for offices; completion by July 1; cost $30,000; construction under supervision of Hugh McCorkle.

Okla., Enid.—Geo. Kronopolus plans to erect brick business building to replace burned structure.

Tenn., Knoxville. — Morris Bart leased building adjoining structure at 213 Gay St. and will remodel both buildings.

Tenn., Memphis.—G. M. Shaw & Co., Tennessee Trust Bldg., Memphis, prepared plans for building at Main St. and Monroe Ave., and will open bids Feb. 1; reported to be 4 stories and basement; 3 floors to be occupied by Shop of Culture; 4th floor for offices; 38x68 ft.; extended basement 50x80 ft.; reinforced concrete covered with white tile; black marble base under windows; roof garden; cost $60,000. (Previously noted.)

Tex., Brownwood.—B. S. Boyson will erect business buildings on E. Lee St.

Tex., Cleburne.—Fred D. Dickson plans to erect 2-story business building.

Tex., Dallas.—Hamilton Plumbing Co. will erect business building at Griffin and River Sts.; 4 stories; reinforced concrete.

Tex., Royse City.—Geo. W. Neeland will rebuild burned structure; 1 story; 30x90 ft.; metal ceiling; brick, steel and marble; electric fixtures; hot-water heat.

Va., Norfolk.—Higgins Land Co. has plans by Neff & Thompson, 600 Seaboard Bank Bldg., Norfolk, for stores on Granby St.; 180x65 ft.; 1 story; provision for 2 additional stories and roof; fireproof; gravel roof; heating plant for each store; bids opened Jan. 26; construction to begin Feb. 1; cost $20,000. (Lately noted.)

W. Va., Huntington.—L. J. Ashworth has plans by L. J. Dean, Huntington, for store and flat building at 1801 Third Ave.; 40x130 ft.; 3 stories; owner may be addressed. (See Machinery Wanted.)

THEATERS

Ga., Columbus.—Sol Loeb has plans by C. F. Hickman, Exchange Bldg., Columbus, for American Theater; cost about $15,000.

Md., Baltimore. — Edward Wilkins, 4104 Kate Ave., is reported to erect motion-picture theater at North and Ellamont Aves.

Md., Baltimore. — Edmondson Amusement Co., Louis Schlichter, Prest., Edmondson Ave. and Pulaski St., will erect motion-picture theater on Edmondson Ave. near Pulaski St.; 43x100 ft.; brick.

Tex., Austin.—Mrs. Sallie Nalle (estate) has plans by John Eberson, Chicago, for theater at 711-15 Congress Ave.; about 75x160 ft.; fireproof; terra-cotta roofing; will let contract about Feb. 1; cost $100,000. Address Ernest Nalle, Austin. (Lately noted.)

Tex., Dallas.—Clifton Edwards and others will expend $4500 to remodel structure at 1504 Elm St. for moving-picture theater.

Va., Norfolk.—Arcadian Realty Corporation has plans by Rossell Edward Mitchell and F. Nelson Wilcox, Norfolk, for motion-picture theater on Granby St. near Freemason St.; seating capacity about 1500; cost complete, $35,000; bids opened Feb. 1.

WAREHOUSES

Ala., Andalusia.—L. M. Johnson will erect warehouse; 40x40 ft.; will be occupied by Alabama Evergreen Exchange.

Fla., Pensacola.—Texas Company, Houston, Tex., is reported to erect warehouse at Chipley and B Sts.

Fla., Sutherland.—L. B. Skinner will erect warehouse.

La., Shreveport.—Louisiana Ry. & Navigation Co., Wm. Edenborn, Prest., New Orleans, plans to expend $750,000 to erect storage warehouses, etc.

S. C., Conway.—Planters' Tobacco & Storage Warehouse Co. (J. R. Bowles, Danville, Va., and W. Percy Hardwick, Conway) will let contract about Mch. 1 to erect tobacco and cotton warehouse; 150x100 ft.; fireproof construction; tin roof; cost $7500; J. H. Parker, Archt., Danville. Address Messrs. Bowles or Hardwick.

Tex., Galveston.—Texas Cotton Factors & Warehouse Co. will erect cotton-shed extensions on Ave. H, between 42d and 43d Sts.; 88x300 ft.; cost $6000. (Previously noted incptd.)

Va., Fredericksburg.—E. M. Young & Co. plan to erect warehouse at Charles and Frederick Sts.

W. Va., Charleston.—Becker Steel Co. will erect warehouse; cost $15,000; H. Rus Warne, Archt., Charleston.

BUILDING CONTRACTS AWARDED

APARTMENT-HOUSES

Ala., Decatur.—D. S. Echols has plans by T. T. Roberts, Decatur, for flat and business building. (See Stores.)

Fla., St. Augustine.—Wm. A. Salladin let contracts to erect showroom, apartment and office building. (See Stores.)

Ky., Louisville.—Thos. E. Turner, 532 W. Main St., let contract to Shrader Bros., 10th and Jefferson Sts., Louisville, to erect 3-flat building at 1455 4th St.; partly fireproof construction; tile roof; cost about $4500; hot-water heating plant, $800; electric lights.

Mo., St. Louis.—Geo. Huebner will erect 2-story tenement-house at 3507 Chippewa St.; cost $4200; A. G. Stohlman, Contr., St. Louis.

Mo., St. Louis.—Ida M. Brown let contract to W. N. Brown, St. Louis, to erect 2-story tenement-house at 4006-4008 Natural Bridge St.; cost $4000.

ASSOCIATION AND FRATERNAL

Ga., Atlanta.—Sinking Fund Com., Grand United Order of Odd Fellows, B. J. Davis, Secy., 402 Odd Fellows Bldg., let general contract to R. E. Pharrow, 201-202 Odd Fellows Bldg., Atlanta, to erect roof garden over structure at Auburn Ave. and Bell St.; 60x100 ft.; glass walls; tar and gravel roof; electric wiring; gas piping, steam heating; maple floors; cost $11,000; W. A. Edwards, Archt., 632 Candler Bldg., Atlanta; no contracts let for material; work to begin Feb. 1. Address the contractor.

Ga., Augusta.—Jr. O. U. A. M. No. 29, L. M. Lively, R. S., 2052 Green St, let contract to T. O. Brown & Son, Augusta, to erect lodge and store building at Walton Way and Young St.; about 40x75 ft.; electric lights; construction to begin Feb. 1; cost $7000. (Lately noted.)

BANK AND OFFICE

Fla., St. Augustine.—Wm. A. Salladin let contracts to erect showroom, office and apartment building. (See Stores.)

N. C., Winston-Salem.—Travers Wood Co., Inc., Richmond, Va., let contract for structural steel for E. W. O'Hanlon store and office building. (See Stores.)

Tenn., Nashville.—N. B. Shyer let contract to erect store and office building. (See Stores.)

Va., Bristol.—Dominion National Bank, H. E. Jones, Prest., let contract to T. G. Martin & Co., Bristol, to remodel building for bank, storerooms and offices; 70x235 ft.; elevator; cost $25,000 to $30,000; Thos. S. Brown, Bristol, and Alfred C. Bossom, 366 5th Ave., New York, Archts. (Lately noted.)

CHURCHES

Ala., Tuscaloosa.—First Baptist Church is reported to have let contract to erect building; Dr. L. O. Dawson, C. E. Barton and Weatherford Durrett, Com.

Fla., Tallahassee. — First Baptist Church let contract to Pichard Bros., Magnolia Heights, Tallahassee, to erect building at Adams St. and College Ave.; 72x115 ft.; porch extending 15 ft. front; metal roof; hot-air heat; electric lights; foundation completed; construction to begin about Mch. 1; cost $20,000; C. W. Bulger & Son, Archts., Praetorian Bldg., Dallas, Tex. (Previously noted.)

Ga., Atlanta.—Atlanta Evangelical Assn. let contract to G. H. Bray, Atlanta, to erect temporary tabernacle at Peachtree and Ellis Sts.; 100x200 ft.; frame construction; prepared roofing; coal stoves to cost $75; arc lamps; cost $3000; completion Feb. 13; McGaughey Electric Co., Atlanta, lighting contractor.

Ga., Atlanta.—First Presbyterian Church let contract to Miles & Bradt Co., Atlanta, to erect building at Peachtree and 16th Sts.; ordinary construction; slate and tar and gravel roof; cost $28,000; steam heating plant, $1500; electric light, $750; 52x168 ft.; 1 story and mezzanine; W. T. Downing and Eugene Wachtendorff, Archts., Atlanta; address contractors. (Previously noted.)

Mo., St. Louis.—Westminster Presbyterian Church let contract to Murch Bros. Construction Co., 1855 Railway Exchange Bldg., St. Louis, to erect main portion of church at Union and Delmar Aves.; 60x128 ft.; fireproof and ordinary construction; slate roof; $5000 steam-heating plant; tower 130 ft. high; exterior of Bedford stone, with granite steps and approaches; main auditorium 54x58 ft., with seating capacity of about 900; ventilating system; interior finished in English quarter-sawed oak; cost $100,000; A. B. Groves, Archt., St. Louis. (Lately noted.)

DWELLINGS

Ala., Birmingham.—L. J. Haley let contract to D. T. Smith & Co., Birmingham, to erect residence; 2 stories; frame; Bem Price, Archt., Birmingham.

Ala., Decatur.—A. A. Jones let contract to erect residence; brick veneer. (Lately noted.)

Ala., Gadsden.—A. W. Sewall let contract to Harris & Lowery, Gadsden, to erect 7-room bungalow on Gardner St.

Ark., Little Rock.—Mrs. A. Retan is reported to have let contract to S. R. Byarly, Little Rock, to erect bungalow at 2691 Arch St.; cost $2800.

D. C., Washington.—R. P. Whitty let contract to R. P. Whitty Co., Union Trust Bldg., Washington, to erect residence at 1222 Quincy St. N. W.; cost $6600; Murphy & Olmstead, Archts., 1413 H St. N. W., Washington.

D. C., Washington.—Central Presbyterian Church, 15th and Irving Sts., let contract to James T. Kenyon, 817 14th St. N. W., Washington, to erect parsonage at 3045 15th St. N. W.; 25x40 ft.; ordinary construction; tin roof; hot-water heat; electric lights; cost $7750; all subcontracts let; A. P. Clark, Jr., Archt., 816 14th St. N. W., Washington. (Lately noted.)

Fla., Clearwater.—J. V. Davidson let contract to H. C. Hansen, Clearwater, to erect bungalow on Fort Harrison Ave.

Fla., Ybor City, Sta. Tampa.—Louis Wohl, 1520 Seventh Ave., let contract to M. F. Lopez, Ybor City, to erect residence; 2 stories; frame; fireproof; sheet-metal roof; fireplace; electric lights; cost $3200; Fred J. James, Archt., Tampa. (Lately noted.)

Ga., Atlanta.—E. F. Adams let contract to T. T. Flagler, Atlanta, to erect 2-story frame residence; cost $3000.

Ga., Atlanta.—V. M. Williams let contract to erect 1-story frame residence; cost $5750.

Ga., Atlanta.—W. H. Brittain let contract to H. W. Nicholes & Son, Atlanta, to erect 2-story brick-veneer residence at 81 Briarcliff Rd.; cost $8000.

Ga., Tifton.—Dr. J. L. Brooks let contract to C. V. Arnold to erect residence at 10th St. and Central Ave.; 7 rooms; Spanish style; cost $5000.

La., New Orleans.—Natale Maestri let contract to Maurice Picheloup, Jr., to erect residence to cost $3562.

Md., Baltimore.—Wm. O. Pierson let contract to Schatz Bros., Catonsville, to erect dwelling on Frederick Rd. at Nunnery La.; 2½ stories; 32x28 ft.; frame and stucco; slate roof; hot-water heat; gas and electric light; cost about $5000.

Md., Baltimore.—Mary Fear has plans by Stanislaus Russell, 2900 Clifton Ave., Baltimore, and let contract to H. W. Thomas, 2014 Slingluff Ave., Baltimore, to erect 3 dwellings on Longwood Ave. between Westwood Ave. and Presbury St.; 3 stories; 15x55 ft.; brick; slag roof; steam heat; gas and electric light; cost $2500 each.

Mo., St. Louis.—C. McClaren let contract to H. Folkers, St. Louis, to erect 2-story dwelling at 4954 Botanical St.; cost $3200.

Mo., St. Louis.—Jos. T. Newell let contract to E. G. Woltcheck, St. Louis, to erect 2-story dwelling at 4014 Magnolia St.; cost $5000.

N. C., Winston-Salem.—W. R. Maxwell let contract to Wm. H. Fetter, Winston-Salem, to erect 2-story residence at Spring and Shallowford Sts.; cost $5000.

S. C., Orangeburg.—W. W. Watson let contract to R. Chestnut, Orangeburg, to erect dwelling; 5 rooms; 36x52 ft.; ordinary construction; shingle roof; owner may be addressed.

Tex., Dallas.—T. G. Hassell let contract to J. A. Moreland, Dallas, to erect residence; Parker & Rittenberry, Archts., 1309½ Main St., Dallas.

Tex., Dallas.—Lang Wharton let contract to W. O. James, Dallas, to erect residence at 3600 Oak Lawn Ave.; 8 rooms; 2 stories; ordinary and mill construction; composition, asphalt and slate shingle roof; cost about $3000; hot-air heating plant, $200; electric wiring and fixtures, $175. (Lately noted.)

Tex., El Paso.—J. G. Klopper let contract to Mayfield Building & Improvement Co., El Paso, to erect 5-room bungalow on the Boulevard; composition roofing; hot-air heat; cement sidewalks; cost $4000; J. D. Mayfield, Archt., El Paso. Address owner. (Lately noted.)

GOVERNMENT AND STATE

Ky., Middlesboro—Postoffice.—Treasury Department, Oscar Wenderoth, Supervising Archt., Washington, D. C., let contract to John G. Unkefer & Co., Minerva, O., to erect postoffice building at 20th St. and Lothbury Ave.; 55x80 ft.; fireproof construction; composition roof; steam heat; electric and gas lighting; cost about $60,000; construction begins about Feb. 15; address contractors. (Lately noted.)

Miss., Vicksburg—Postoffice.—Grohne Con-Contracting Co., Joliet, Ill., has contract to construct in postoffice wire screen partitions, vestibule doors, lobby floor, fire escape, etc.; cost $6168.

Okla., El Reno—Postoffice.—Treasury Dept., Oscar Wenderoth, Supervising Archt., Washington, D. C., let contract at $66,126 to George W. Stiles Construction Co., Chicago, to erect postoffice building; limestone construction; 2 stories and basement; fireproof; 5270 sq. ft. ground area. (Lately noted.)

Okla., Oklahoma City—Capitol.—State Capitol Com. let contracts for material to be used in construction of rough concrete form of capitol, as follows: Dewey Portland Cement Co. of Dewey and Oklahoma Portland Cement Co. of Ada, Okla., cement, total about $17,500; Capitol Steel & Iron Co., Oklahoma City, steel, $36,516; Sandringham Sand Co., Oklahoma City, sand, $5000; Dolese Bros. Co., Oklahoma City, crushed stone, $1.55 a yard; Minnetonka Lumber Co., Oklahoma City, lumber, $8500; plans by Layton & Smith, Majestic Bldg., Oklahoma City, call for structure 409x104 ft.; gray granite; marble wainscoting; fireproof; cost about $1,500,000. (Lately noted.)

HOSPITALS, SANITARIUMS, ETC.

S. C., Chester.—J. S. Starr, Rock Hill, S. C., prepared plans for hospital; 50x100 ft.; ordinary construction; steam heat; electric lights; hand elevator; cost $5000; J. P. Yaudle, contractor, Chester.

Va., Newport News.—Trustees of General and Non-Sectarian Hospital, W. B. Livezey, Prest., let contract to erect building to J. W. Davis, Newport News; Donald McKee, Archt., Newport News; cost about $27,000. (Previously noted.)

Va., Richlands.—Dr. R. B. Williams let contract to Hildreth Bros., Tazewell, Va., to erect hospital; Richlands brick and Norfolk white sand; 3 stories; cost $45,000.

HOTELS

Ala., Birmingham.—Birmingham Hotel let contract to W. F. Kelly, Birmingham, to install running water in all rooms, tubs and lavatories in bathrooms, etc.; D. O. Whilldin, Archt., Birmingham.

MISCELLANEOUS

Tenn., Chattanooga — Clubrooms.— Central Y. M. C. A. let contract on percentage basis to Chambers & Son, Chattanooga, to remodel building for Business Men's Club; W. H. Sears and R. H. Hunt, Archts., Chattanooga.

Va., Buena Vista—Stable.—W. T. Robey let contract to W. P. Newland, Buena Vista, to erect stable to replace structure lately noted burned; 40x125 ft.; brick and cement; peroid roofing; cost $4000. Address contractor. (See Machinery Wanted.)

SCHOOLS

Ala., Boyles, P. O. at Birmingham.—Jefferson County Board of Education let contract to Jesse L. Burns, 6212 1st Ave., Birmingham, to erect high school; 52x105 ft.; 2 stories and basement; wing 50x52 ft.; mill construction; fireproof corridor; tar and gravel roof; steam heat (water and fan system); electric lights; cost $30,000; Wm. Leslie Welton, Archt., Birmingham. Address contractor. (Lately noted.)

La., Baton Rouge. — Kroger & Charlton, Baton Rouge, general contractors to erect teachers' college building at Louisiana State University, let subcontracts to following: C. C. Hartwell Co., White Roofing & Construction Co., New Orleans; Enochs Lumber & Mfg. Co., Jackson, Miss.; W. C. Joubert, C. C. Nelson, James Arbour, Baton Rouge; International Iron & Steel Co., Cincinnati; Laclede Steel Works, St. Louis; Baton Rouge Brick & Lumber Co., Baton Rouge; plans by Favrot & Livaudais, New Orleans, call for 3-story structure; 64x143 ft.; ordinary construction; built-up composition roof; low-pressure steam heat; wired for power from central plant; dumbwaiter service; cost $35,000; general contractor may be addressed. (Lately noted.)

STORES

Ala., Decatur.—D. S. Echols has plans by T. T. Roberts, Decatur, for flat and business buildings on W. Church St.; 35x70 ft.; 2 stories; ordinary construction; paper roofing; stoves; electric light; cost $4000; construction by owner; S. Simpson, subcontractor.

Fla., St. Petersburg.—D. W. McCauley let contract to Bryan & Pendleton, St. Petersburg, to erect store building on Central Ave., between 6th and 7th Sts.; 2 stores; 58x100 ft.; concrete construction.

Fla., St. Augustine.—Wm. A. Salladin let contracts to erect monumental showroom, office and apartment building at Charlotte and Hypolita Sts.; 38x18 ft., with wing 10x8 ft.; frame; Century shingles sides and roof; electric and gas lighting; cost $3000; contract for each part let separately; Gould T. Butler, Archt., St. Augustine. (Previously noted.)

Fla., St. Petersburg.—Mrs. Virginia C. Wiley, Buffalo, N. Y., let contract to Brown & Pendleton to erect store building; 1 story; stone; tile floors; 6 storerooms.

Ga., Augusta.—Jr. O. U. A. M. let contract to erect store and lodge building. (See Association and Fraternal.)

Ga., Pembroke.—J. Morgan, Savannah, Ga., let contract to erect 2 business buildings; 1 story; brick.

N. C., Charlotte.—D. H. Anderson let contract to R. L. Goode, Charlotte, to remodel burned structure on West 5th St.; 51x66 ft.; ordinary construction; for stores and dry-cleaning establishment; cost $10,000. (Lately noted.)

N. C., Charlotte. — Dr. E. Reid Russell, Asheville, N. C., let contract to E. H. Overcash, 19 E. 6th St., Charlotte, to erect store building to replace burned structure; ordinary construction; tin roof; lighting plant to cost $250; J. N. McCausland has contract for tin work; total cost $5000.

N. C., Winston-Salem.—Travers Wood Co., Inc., Richmond, Va., general contractor to erect store and office building for E. W. O'Hanlon, let contract for structural steel to Richmond (Va.) Structural Steel Co.; building 6 stories; 99x35 ft.; fireproof; cost $70,000; W. C. Northup, Archt., Winston-Salem. (Lately noted.)

Okla., Yale.—Stewart & Wilderson, 503-07 American Bank Bldg., Oklahoma City, prepared plans and have contract to erect business building to cost $7500. (Lately noted.)

Tenn., Nashville.—N. B. Shyer let contract to J. A. G. Sloan, Nashville, to erect store and office building at Fourth Ave. and Union St.; 42x47 ft.; 2 stories; ordinary construction; Barrett gravel roof; steam-heating plant to cost $1000; cost $12,000; Marr & Holman, Archts., Nashville. (Lately noted.)

Tex., Dallas.—L. Lipsitz, Dallas, and A. Harris, New York, have plans by C. D. Hill & Co., Dallas, and let contract to Gilsonite Construction Co., Dallas, to erect store building on Elm St. near Harwood St. for Rodgers-Meyers Furniture Co. exclusively; 60x200 ft.; 6 stories and full basement; reinforced concrete; 2 elevators; steam heat; electric wiring; sprinkler system; front of stone, brick and terra-cotta; metal frames and sash; total cost about $150,000. (Lately noted.)

Tex., Mabank.—M. H. Gossett let contract to W. O. England, Mabank, to erect building to replace burned structure; brick.

Va., Bristol.—Dominion National Bank let contract to remodel building for stores, bank and offices. (See Bank and Office.)

W. Va., Martinsburg.—F. O. Trump, Kearneysville, W. Va., general contractor to erect building for O. M. Ramsey & Co., let contract for 260,000 bricks for main body of structure to Adamantine Clay Products Co., North Mountain, W Va., and 18,000 facing and trimming bricks to D. J. Kennedy Co., Pittsburgh, Pa.; W. E. Ellis, excavating contractor; plans by C. C. Comptop, Donora, Pa., call for 3-story structure; 34x150 ft.; cost about $20,000. (Lately fully detailed.)

THEATERS

Ga., Columbus.—H. L. Woodruff let contract to G. M. Barlow, Columbus, to remodel building for Grand Theater; T. F. Lockwood, Archt., Murrah Bldg., Columbus; R. E. Martin will be proprietor.

Va., Norfolk.—Dr. Robert Lee Jenkins let contract to W. H. Saunders, Norfolk, to erect building on Colley Ave. between Olney Rd. and Boissevain Ave.; construction in 2 parts; main structure for stores, rear section for moving-picture theater; fireproof; main structure of select glazed pressed brick with terra-cotta trimmings, frontage of 90 ft., 4 stores on ground floor, second floor for hall, 75x45 ft. clear; theater 90x45 ft.; 26 ft. high, accommodations for 800 people; total cost $36,000; plans by H. C. Hoggard, Jr., and Mr. Saunders, both of Norfolk.

Va., Fredericksburg.—Benj. T. Pitts let contract to E. G Heflin, Fredericksburg, to erect moving-picture theater at 915 Main St.; 26x140 ft.; fireproof; slag roof; indirect heating plant; cost $10,000; electric lights, $300; P. N. Stern, Archt., Fredericksburg. (Lately noted.)

WAREHOUSES

Ky., Paducah.—W. R. Nagel & Co. awarded contract to erect warehouse with 30,000 ft. floor space.

Ky., Paducah.—R. H. Scott let contract to Jack Cole, Paducah, to erect tobacco warehouse; 150x200 ft.; concrete and mill construction; composition roof; cost $6800. (Lately noted.)

Md., Baltimore.—C. B. Watkins & Co., 723-5 S. Charles St., will erect warehouse at rear premises; 2 stories; 28x55 ft.; brick; plans and carpenter work by Henry Pierson & Sons, 1000 Olive St., Baltimore; main construction by owners.

Mo., St. Louis.—C. J. and F. E. Briner let contract to M. Eyssell Construction Co., Odd Fellows' Bldg., St. Louis, to erect factory and warehouse at 1097-15 Morgan St.; 78x100 ft.; 3 stories; fireproof; Barrett specification roofing; cost $17,500; Hunkin Willis, engineer, St. Louis. (Lately noted under Dwellings.)

S. C., Florence.—G. C. Chandler has plans by and let contract to Creech & McBride, Florence, to erect warehouse; 1 story; 35x100 ft.; mill construction; tin roof; electric lights; completion in 3 weeks; contractors may be addressed; cost $3000.

Va., Richmond.—James Fox & Sons, Richmond, general contractors to erect warehouse for Spence-Nunnamaker Co. on 17th St., between Broad and Marshall Sts., let following subcontracts: Brick work, Fulton Brick Works; excavating, Jos. B. Shafer; heating and plumbing, John H. Rose & Co.; painting, A. Hetzer & Son; roofing, David Simpson & Son; lumber, Ellington & Guy, Inc.; stone work, I. J. Smith & Co., Inc.; plastering, John E. Garrett; iron work, Ross Structural Iron Works; mill work, Charles W. Hardwicke & Co.; electric work, Bauman & Hines; tile work, Miller Mfg. Co., Inc., all of Richmond; steel work, Charles Samson, Jr., Norfolk; concrete included in general contract; plans by Albert T. Hunt, Richmond, call for structure 50x100 ft.; fireproof and mill construction; slag roof; hot-water heat; electric lights; cost $15,984. (Lately noted.)

RAILROAD CONSTRUCTION

RAILWAYS

Ala., Gadsden.—Incorporation articles will be prepared soon for the proposed railway from Gadsden to Centre, Ala., about 30 mi. Loui Hart, Gadsden, can give information.

Ala., Mobile.—Tidewater Securities Corp., which proposes to build a railroad from Alabama Port to Cedar Point, about 9 mi., is reported granted by the Mobile & Ohio R. R. Co. J. M. Dewberry, Prest. of the Securities Corp., is quoted saying that construction may be expected early this year.

Ala., Pine Hill.—Georgia, Florida & Alabama Ry. has let contract to the American Bridge Co., New York, for steel bridge over the Alabama River near Pine Hill; structure to have draw span 292 ft., 2 through truss spans each 146 ft. long, and 3 deck plate girder approach spans, each 45 ft. G. A. Berry, Pensacola, Fla., is V.-P. and Gen. Mgr.

Ark., Combs.—Black Mountain & Eastern R. R. Co., capital stock $250,000, is chartered to build a line from Combs to Gass, Ark., about 20 mi., on which most of the track is already constructed; directors, Ed. E. Jeter of Combs, Jesse Phipps of St. Paul, J. H. Phipps, J. M. Williams and W. J. Reynolds of Fayetteville, Ark.

Ark., De Queen.—Hans Dierks, Prest. De Queen & Eastern Railroad, Kansas City, Mo., is quoted saying that it is contemplated to build line from Broken Bow, Okla., to De Queen, 26 mi., to connect the Texas, Oklahoma & Eastern R. R., of which he is also president, with the De Queen & Eastern.

Ark., Monticello.—Arkansas, Louisiana & Gulf R. R. may spend $75,000 for reduction of grades and improvement of facilities. Concerning the contemplated extension from Monticello to Pine Bluff, Ark., about 42 mi., it is stated that the plan is for construction to begin within six months. J. M. Parker, Monroe, La., is president.

Ark., Mountain Home. — Ozarks Ry. Co. contemplates building a line 215 mi. long from Springfield, Mo., to Little Rock, Ark., via Ava, Mo., near Gainesville, in the same State; Mountain Home, along the Buffalo River to a point about 6 mi. east of Marshall, and thence southward to Little Rock. Construction bids will be invited within a few months, according to information received from T. J. Murray, in care of the company at Mountain Home. Prest. is K. V. Loba of Mountain Home; V.-P., E. C. McAfee, Woodruff Bldg., Springfield; Secy. and Treas., R. S. Wickersham, Mountain Home.

Fla., Fort Myers.—Survey is reported made and right of way secured for a proposed railroad from Fort Myers southward to Naples and Everglade, Fla., and thence across the peninsula through the Everglades to Miami, a total distance of about 150 mi. Fort Myers Board of Trade may be able to give information.

Fla., Tarpon Springs.—Plans to build an interurban railway from Tarpon Springs to Fivay, Fla., 12 mi., and to be operated with gasoline motive power are reported under consideration. W. L. Sontag, Alabama Hotel, and M. L. Waggoner, 3d Ave. South, both at St. Petersburg, Fla., are interested.

Ky., Owingsville.—Owingsville & Olympia R. R. has finished and put in service its line from Owingsville to Olympia, Ky., 6 mi.

Ky., Beaver.—Chesapeake & Ohio Ry., it is reported, will build an extension of the Beaver Creek branch to Wayland, Ky. C. W. Johns, Richmond, Va., is engineer branch lines.

Ky., Jenkins.—A report that the Sandy Valley & Elkhorn Ry. (Baltimore & Ohio system) proposes construction of a line from Jenkins up Rockhouse Creek is denied by the railroad company.

Ky., Paducah.—Nashville, Chattanooga & St. Louis Ry. is reported preparing to begin construction of yard extensions at Paducah. Hunter McDonald, Nashville, Tenn., is Ch. Engr.

La., Monroe.—P. C. Allen is reported working on plans for the construction of railroad wich may eventually connect Kansas City and New Orleans.

La., New Orleans.—Louisiana Ry. & Navigation Co. will do considerable betterment and improvement work this year according to plans in contemplation. Wm. Edenborn, Hibernia Bank Bldg., New Orleans, is Prest.

La., New Orleans.—Orleans-Kenner Interurban Electric Ry., A. Smith Bowman, Prest., has begun construction of the Metairie Ridge loop line.

La., Rayville.—Duncan Buie of Rayville is reported surveying for a lumber railroad for the Chess & Wymond Co. It will connect the company's log line with the Gilbert-Eudora branch of the Memphis, Helena & Louisiana R. R. at Calvert.

Md., Hagerstown.—Hagerstown & Frederick Electric Ry. Co. contemplates construction of a 2 mi. branch from Hagerstown to Security. E. L. Coblentz, Frederick, Md., is Prest.

Mo., Ava.—August Heman of St. Louis, Prest. Kansas City, Ozarks & Southern R. R., is reported saying that an extension of probably 50 mi. will be built. Considerable improvements will also be made on the existing line 15 mi. long from Ava to Mansfield, Mo.

Mo., Greenville.—Ozark Valley R. R. Co., capital $350,000, has taken over the Williamsville, Greenville & St. Louis Ry., 35 mi. long from Williamsville via Greenville to Cascade, Mo., and may build extensions. J. T. Long of Kansas City, Mo., is Prest.; James H. Downes of Assumption, Ill., V.-P.; Ora D. Ridgeley of Kansas City, Secy. and Treas.; G. A. Long of Williamsville, Gen. Mgr.

N. C., Andrews.—Contract is awarded to the Wright Johnson Construction Co. of Atlanta, Ga., to grade the Hiawassee Valley Ry. from Andrews to the Clay county boundary, about 16 mi. Work to begin immediately. Entire line from Andrews to Hayesville, 26 mi., is now put under construction.

N. C., Greensboro. — Carolina & Yadkin River Ry. contemplates building an extension from Denton to Troy, N. C., about 25 mi. Survey to begin soon. Bird S. Coler, 43 Cedar St., New York, is Prest.

Okla., Nowata. — Union Traction Co. of Coffeyville, Kans., has completed and put in operation its extension to Nowata. Other extensions, as previously reported, are contemplated. D. H. Siggins is Prest. and Gen. Mgr.

S. C., Charleston.—North Charleston Corporation, R. G. Rhett, Prest., has arranged with the Southern Ry., the Atlantic Coast Line and the Seaboard Air Line to build a belt line railroad to connect North Charleston industrial plants with respective railroad yards.

S. C., Columbia.—J. C. Brewerton of Fayetteville, N. C., is reported to have secured right of way for a private railroad 12 mi. long from timber land on the Congaree River to his proposed cooperage plant near Columbia.

S. C., Spartanburg.—Feb. 1 Southern Ry. will begin construction of two additional receiving tracks at Spartanburg and two at East Spartanburg. It will also extend passing tracks at Carlisle, Alston, Herbert, Riley and Fort Motte, S. C. W. H. Wells, Washington, D. C., is Ch. Engr. of Construction.

Tenn., Greeneville.—Preliminary survey is in progress for the proposed Carolina, Greeneville & Northern R. R. from Kingsport via Greeneville to Newport, Tenn., about 75 mi. F. A. H. Kelly, Greeneville, is Ch. Engr.

Tenn., Jellico.—Survey is reported begun for the railroad of the Jellico Coal & R. R. Co. from Pine Knot, on the Queen & Crescent Route, in Whitley county, Ky., eastward to Jellico, about 20 mi. Two tunnels and three small bridges. Construction heavy. W. E. Whelock of Chattanooga is Prest., and D. C. Barker of Jellico Ch. Engr.

Tex., Brenham.—Survey is reported begun for the interurban railway planned by L. M. Hewitt of Bryan, Tex., to connect Brenham, Independence and Washington, Tex. A. B. Carson is Ch. Engr. and H. C. Betts resident engineer.

Tex., Freeport. — The Houston & Brazos Valley R. R., according to local report, will spend $30,000 to improve terminal tracks at Freeport. Felix Jackson, Freeport, is V.-P.

Tex., San Antonio.—San Antonio Interurban Ry. Co., which proposes to build a line from San Antonio to Austin, about 75 mi., will arrange to begin construction as soon as financial market conditions become settled. Vories P. Brown is Prest.; W. B. Tuttle, V.-P.; Sam C. Bell, Secy., and Jesse D. Oppenheimer, Treas.

Va., Charlottesville. — Southern Ry. has awarded contracts for second track and revision of line between Orange and Charlottesville, 28.7 mi., thus: Orange to Burnley, 15 mi., to the Morrow Construction Co. of Atlanta, Ga., and Burnley to Charlottesville, 13.7 mi., to C. W. Lane & Co. of the same city.

Va., Farmville.—According to a bill pending in the Legislature, the Norfolk & Western Ry. proposes to build a cutoff about 40 mi. long around Farmville. J. E. Crawford, Roanoke, Va., is Ch. Engr.

Va., Radford.—A meeting is to be held Jan. 30 at the Board of Trade in which local business men and residents of Floyd county will

participate, for the construction of an electric railway to connect Radford and Willis, Va., about 28 mi. Address A. J. McClung, Secy. Radford Board of Trade.

Va., Charlottesville.—Southern Ry. is reported rapidly finishing survey between Arrowhead and Elma, and will soon invite bids to build second track and revise line between those points. W. H. Wells, Washington, D. C., is chief engineer of construction.

STREET RAILWAYS

Ala., Mobile.—Mobile Light & R. R. Co. proposes to build two loop lines to connect with present tracks. J. H. Wilson is Prest. and Gen. Mgr.

Ga., Columbus.—It is officially stated that the Columbus R. R. Co. does not contemplate extensions or new developments. This refers to a recent report that an extension in Girard would be constructed. J. S. Bleecker is Local Mgr. for Stone & Webster of Boston, and R. M. Harding is Gen. Supt.

La., Shreveport.—Shreveport Traction Co. is preparing to build an extension from Waverly to South Highlands, about 1¼ mi. W. A. Sullivan is Gen. Mgr.

La., New Orleans. — Construction of a double-track street railway to serve a part of the city below Canal St. is projected by a committee of which Chas. Torreogrossa is chairman and Jos. F. Ebert, 2257 N. Roman St., is treasurer.

Tenn., Chattanooga.—Chattanooga Ry. & Light Co. may build 20 mi. of new trackage during 1915. W. E. Bolleau is Gen. Mgr.

Tex., San Angelo.—San Angelo Street Ry. Co. contemplates building an extension. Address J. D. Sugg, 604 Trust Bldg., San Angelo.

Va., Lynchburg.—Lynchburg Traction & Light Co. contemplates building extension to Madison Heights over the proposed viaduct from 7th and Commerce Sts. across the James River. J. W. Hancock is Gen. Mgr.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers Record has received during the week the following particulars as to machinery and supplies wanted.

"WANTS"

Arsenate of Lead. — F. A. Lankford, care Virginia Mercantile Agency, Cloverdale, Va.—Arsenate of lead. (See Lime, etc.)

Beams.—Jose Gost, Balmes, 123, Barcelona, Spain.—Prices c. i. f. Alicante on 200 tons of beams (vigas or poutrelles) from 80 to 300 millimeters and about 9 meters long.

Bells.—W. A. Rayfield & Co., Box 649, Birmingham, Ala.—Addresses of manufacturers of bells.

Belting. — See Engines, Boilers, etc., Street & Co.

Bluestone.—F. A. Lankford, care Virginia Mercantile Agency, Cloverdale, Va.—Bluestone. (See Lime, etc.)

Boats.—See Tender (Motor Dredge), U. S. Engr. Office, Galveston, Tex.

Boilers.—See Engines, Boilers, etc., Street & Co.

Boiler.—Williamson Light & Ice Co., O. B. Welch, Gen. Mgr., Williamson, W. Va.—72-in. by 18-ft return tubular boiler; must have boiler insurance certificate for 125 lbs. (not 215 lbs., as lately stated.)

Bolt Manufacturers. — See Nut and Bolt Lock, King, Fox & King.

Brass, etc. — Navy Dept., Bureau Supplies and Accounts, Saml. McGowan, Paymaster-Gen., Washington, D. C.—Bids until Feb. 9 for delivering at navy-yard, Norfolk, Va., the following: Scrap brass, chasers for automatic die heads, hardware and tools, buoy lights, plate planing machine, castor oil, toggle press. Apply navy pay office, Norfolk, or to Bureau.

Bridge Construction. — Brunswick County Board of Supervisors, W. T. Sledge, Clerk, Lawrenceville, Va.—Plans, specifications and proposals at Jones Low Bridge, Feb. 19, to erect steel bridge over Meherrin River, about 2 mi. south of Lawrenceville.

Bridge Construction.—Brunswick County Supvrs., W. T. Sledge, Clerk, Lawrenceville, Va.—Bids, plans and specifications until Feb. 19 to construct steel bridge over Meherrin River at Jones Low Bridge, 2 mi. from Lawrenceville.

Bridge Construction.—Randolph County Court, Thaddeus Pritt, Clerk, Elkins, W. Va.—Bids March 1 to construct following bridges: Stone Gutter, on S. and P. turnpike, length clear span 25 ft., 8 ft. clearance under bridge, clear roadway 18 ft., skew 50 degrees, wingwalls 8 ft. long; Kings Run, Beverly and Fairmont turnpike, clear span 45 ft., bridge clearance 5.5 ft., roadway 18 ft., wingwalls 10 ft. long; Isner's Run, Beverly and Fairmont turnpike, clear span 40 ft., bridge clearance 7 ft., roadway 18 ft., wingwalls 12 ft.; Mill Creek, Huttonsville, Helvetia and Pickens pike, at Rosencrance's mill, clear span 70 ft., bridge clearance 8.5 ft., roadway 14 ft., 15 ft. upper side and 8-ft. long, lower side wingwalls; Stone House, across Cheat River, clear span 170 ft., bridge clearance 17 ft., roadway 14 ft., 15-ft. east side and 12-ft. west side wingwalls; bridge across run near Arthur Crouch's, on Staunton and Parkersburg pike, clear span 20 ft., bridge clearance 5 ft., roadway 18 ft., 8-ft. wingwalls; Stalnaker Run, on Leading Creek pike, clear span 20 ft., bridge clearance 7 ft., roadway 18 ft., 7-ft. wingwalls; all bridges to be of concrete, except Stone House bridge on Cheat River, this to be of concrete or steel.

Buckles. — See Webbing (Elastic), etc., M. W. Parrish.

Building Material. — L. J. Ashworth, Huntington, W. Va.—Prices on brick and lumber for 3-story store and apartment-house.

Building Materials.—J. S. Starr, Rock Hill, S. C.—Prices on steel beams, art glass, brick, rough and dressed lumber, lime, cement, composition roof and metal ceiling.

Cabinets (Bathroom).—Miss Clara V. Tatum, care McMillan Bros. Co., Mobile, Ala.—Adresses of manufacturers of small cabinets, suitable for bathrooms.

Canned Goods.—See Wire (Galvanized), Wire Work, etc., Bensussan, Sides & Co.

Canning Machinery. — Mrs. Mollie Cohen, Sylvania, Ga.—Correspondence with manufacturers of canning factories.

Cars (Gasoline Motor). — Chas. F. Douglass, Anniston, Ala.—Addresses of manufacturers of gasoline motor cars for dummy track.

Cars.—Thaw & Williams, Bell Block, 6th and Vine Sts., Cincinnati, O.—Twenty 4-yd. cars; 36 or 24-in. gauge; Indiana delivery.

Castings (Die, Aluminum).—Icy Hot Bottle Co., Cincinnati, O. — Addresses of manufacturers of aluminum die castings.

Concrete Forms (Metal, Collapsible).—Cement Products Co., 1015 Murchison Bldg., Wilmington, N. C.—Collapsible metal concrete forms.

Concrete Foundations. — Navy Dept., Bureau of Yards and Docks, H. R. Stanford, Chief, Washington, D. C.—Bids at Bureau or at Naval Station, Pearl Harbor, Hawaii, until Feb. 27 for construction of concrete foundations for three 600-ft. steel radio towers at naval station, Pearl Harbor; plans and specifications (No. 2132) obtainable on application to Bureau or to Commandant of naval station named.

Concrete Reservoir. — Tampa Waterworks Co., Chester R. McFarland, Gen. Mgr., Tampa, Fla.—Bids until Feb. 15 for reinforced concrete reservoir about 206 ft. long by 125 ft. wide and 20 ft. deep, in accordance with plans and specifications to be furnished by company; $25 deposit per copy for plans and specifications.

Corn Mill Machinery.—Ramsey & Digby, Box 34, Farmerville, La.—Combined corn mill bolter and corn sheller.

Cotton Gin.—W. F. Valentine, Booneville, Ark.—Open bids May 1 on three 80-saw huller gin system complete.

Cotton Goods.—See Wire (Galvanized), Wire Work, etc., Bensussan, Sides & Co.

Cotton Strips.—Baltimore (Md.) Board of Awards receives bids at office City Register, City Hall, until Feb. 3 to furnish cotton strips for Chas. Wilson, City Storekeeper; specifications and plans obtainable from Mr. Wilson.

Crusher.—Southern Marble & Stone Co., J. W. Cearley, Mgr., Yoakum, Tex.—Small crusher to crush marble and granite sprawls.

Dairying Machinery. — V. Gueringer, 219 Missouri Ave., Kansas City, Mo.—Catalogues and price lists of dairying machinery.

Dredging Machinery.—Ellis Hoffpauir, Estherwood, La. — Interested in prices on dredge to cut 20-ft. ditch.

Dry Goods. — See Wire (Galvanized), Wire Work, etc., Bensussan, Sides & Co.

Drying and Pulverizing Machinery. O. M. Wood & Son, 341 Main St., Carrollton, Ky.—Machinery to dry and pulverize tobacco stalks for fertilizer.

Drugs and Chemicals. — Jose Gost, Balmes, 123, Barcelona, Spain.—Interested in drugs and chemicals; view to representation, especially in Spain and Portugal.

Elevator (Grain) Machinery.—Edw. H. Richards, Willow City, N. D.—Prices on grain elevator machinery for 25,000 bus. capacity; to be established about April 1 at Anderson, S. C.

Engines, Boilers, etc.—Street & Co., manufacturers' agents, 213 Issaquena Ave., Clarksdale, Miss.—Interested in prices on engines, boilers, belting, etc.

Engines (Fire, Gasoline). — Board, Mayor and Aldermen, R. F. O'Brien, Secy., Bay St. Louis, Miss.—Bids until Feb. 6 for gasoline fire engine; about 50 H. P. motor; fitted for hand and horse draft; give terms.

Engine (Oil).—Powell & Jones, Cordele, Ga.—Oil engine, 25 H. P. capacity.

Engines (Traction, Gasoline or Oil). — Cummings Machinery Agency, 1216 Main St., Columbia, S. C.—Correspondence with manufacturers of gasoline or oil traction engines.

Feed Cutter.—W. T. Robey, Buena Vista, Va.—Prices on feed cutter.

Feed Mill Machinery. — Henderson Grain & Feed Co., J. S. Poythress, Prest., Henderson, N. C.—Machinery for grain and feed plant.

Gas Works Apparatus.—Alabama Power Co., E. S. Center, Jr., purchasing agent, Brown-Marx Bldg., Birmingham, Ala.—Prices on benches, condensers, scrubbers and washer.

Gas Franchise.—City of Lake Charles, La., Andrew Cook, Clerk.—Bids until Feb. 25 for municipal gas franchise. (Lately noted.)

Hardware.—See Wire (Galvanized), Wire Work, etc., Bensussan, Sides & Co.

Hoist.—F. O. Trump, Kearneysville, W. Va.—Prices on gasoline hoist, about 1200 lbs. capacity and in good condition.

Ice Machinery.—Sea Food Co., Box 910, Biloxi, Miss. — Equipment for ice plant; about 25 to 40-ton capacity.

Ice Plants.—Mrs. Mollie Cohen, Sylvania, Ga.—Correspondence with manufacturers of small ice plants.

Iron, Steel, etc.—Jose Gost, Balmes, 123, Barcelona, Spain. — Interested in manufactures of iron, steel and other metals; view to representation, especially in Spain and Portugal.

Lathe (Engine).—Box 247, Mobile, Ala. Second-hand 12x96-in. engine lathe.

Lathe (Wood).—Jos. L. Pearson, Keysville, Va.—Used or rebuilt wood lathe (pattern-maker's preferred); complete; good condition; not less than 16 in. by 9 ft. between centers.

Laundry Machinery. — L. O'Hara, Blytheville, Ark.—Catalogues and prices on laundry machinery.

Lime, etc.—F. A. Lankford, care Virginia Mercantile Agency, Cloverdale, Va.—One car lime in barrel; one or more cars lime and sulphur; arsenate of lead, bluestone and sulphur in bulk.

Locomotives.—Thaw & Williams, Bell Block, 6th and Vine Sts., Cincinnati, O.—To rent 1 or 2 dinkies, Indiana delivery.

Malleable Hub. — King, Fox & King, Sandy Springs, S. C.—Correspondence with manufacturers of malleable iron and of vehicle wheels, view to having patented malleable expansion vehicle hub made on royalty.

Metals. — See Wire (Galvanized), Wire Goods, etc., Bensussan, Sides & Co.

Metal Ceiling.—See Building Materials.

Metals.—See Iron, Steel, etc., Jose Gost.

Mica.—See Monazite Sand, etc., L. Magnus.

Milling Machine, etc. — Navy Dept., Bureau Supplies and Accounts, Saml. McGowan, Paymaster-Gen., Washington, D. C.—Bids until Feb. 9 for delivering milling machine, lard oil, steel rails, splice bars and forgings and vanadium at navy-yard, Washington, D. C. For proposals apply to Bureau.

Monazite Sand, etc. — L. Magnus, 86 Rue de Crimee, Paris, France.—Will be interested in nickel, mica and monazite sand for manufacture of nitrate of thorium.

Motors (Electric). — W. T. Robey, Buena Vista, Va.—Prices on electric motor.

Nickel.—See Monazite Sand, etc., L. Magnus.

Nut-shelling Machines. — American Metallic Packing Co., Walnut and Clark Sts., Lexington, Ky.—Addresses of manufacturers, with resale prices and catalogues on electric nut-shelling machines, for pecans, almonds, etc.

Nut and Bolt Lock.—King, Fox & King, Sandy Springs, S. C.—Correspondence with manufacturers, view to having nut and bolt lock made on royalty.

Organs (Pipe).—W. A. Rayfield & Co., Box 649, Birmingham, Ala. — Addresses of manufacturers of pipe organs.

Pan (Muller). — Planters' Chemical & Oil Co., Talladega, Ala.—Second-hand 9 or 10-ft. muller pan, first-class condition; give details, location and quickest shipment.

Paper. — See Wire (Galvanized), Wire Goods, etc., Bensussan, Sides & Co.

FOR the benefit of business concerns, engineers, contractors, machinery manufacturers, dealers and others who find it profitable to follow up daily the industrial, commercial, railroad and financial development of the South and Southwest as published in this Construction Department,

We issue every Business Day in the Year

THE DAILY BULLETIN

The construction news as published in the Daily Bulletin is invaluable to all business people who want to keep in daily touch with the organization of business enterprises of all kinds throughout the whole South. Unlimited possibilities for the creation of business, for securing contract work, for the sale of machinery and supplies of all kinds, for bond buyers and others, are to be found through a close following up of the news in the Daily Bulletin.

The Daily Bulletin is an exceptionally desirable advertising medium.

The subscription price is $25.00 a year. Are you a subscriber to it, or an advertiser in it? If not, you are missing an opportunity for profitable business.

Paving.—L. A. Scott, City Clerk, Jackson, Miss.—Bids until Feb. 2 to resurface about 8000 sq. yds. old brick pavement on Capitol St. with sheet asphalt; plans and specifications by M. L. Culley, City Engr.; city to furnish material; contractor to furnish superintendence, labor, tools and equipment.

Paving. — Baltimore (Md.) Board of Awards.—Bids at office City Register, City Hall, until Feb. 3 to grade, curb and pave with granite blocks second section Key Highway and to lay steam railroad track on highway from Montgomery to Lawrence Sts.; specifications and drawings on file with City Engr., W. Kent McCay, City Hall.

Paving. — Baltimore (Md.) Board of Awards.—Bids at office City Register, City Hall, until Feb. 3 to grade, curb and pave with sheet asphalt, vitrified and granite block, all on concrete base, following contracts: No. 106—Nursery lane, Sapp, Spring and Dallas Sts., 4700 sq. yds. vitrified block; No. 107—Baltimore St., from Front to Broadway, 7700 sq. yds. sheet asphalt, 6470 sq. yds. granite block and 700 sq. yds. vitrified block; No. 108—Lombard St., from Paca St. to Hopkins Pl., 1400 sq. yds. granite block repaving and 4200 sq. yds. granite block; No. 109—Patterson Park, Eastern and Ellwood Aves., Eastern Ave. and Lakewood Ave., Eastern Ave. and Linwood Ave. and Essex and Pratt Sts., 14,500 sq. yds. sheet asphalt, 5850 sq. yds. vitrified block and 3320 sq. yds. granite block; approximate quantities; specifications, etc., on application office of Paving Com., R. Keith Compton, Chrmn. and Consult. Engr., City Hall, on deposit $5 per specification each contract.

Paving.—Sims Cameron, City Secy., McKinney, Tex.—Bids until Feb. 3 for work in Improvement Dist. No. 2; 27,646 sq. yds. pavement, 5074.3 cu. yds. excavation, 16,436 lin. ft. curb, and curb and gutter, catchbasins, drains, etc.; bids invited on all classes of pavement; plans and specifications on file with City Secy. McKinney and with Engineering & Contracting Co., 608 S. Dearborn St., Chicago, Ill., and may be obtained from Chas. Schultz, City Engr.

Perforating (Needlework) Machinery.—S. L. Hoover, 19 Pine Ave., Takoma Park, D. C.—Addresses of manufacturers of or dealers in perforating machine for "cutting out designs for fancy or needlework."

Perforating Machine. — Postoffice Department, office Wm. L. K. Barrett, Acting Purchasing Agent, Washington, D. C.—Bids until Jan. 28 to furnish 2 perforating machines for punching sheets to be filed in transfer binder; for further information address Purchasing Agent.

Piling (Sheet Steel).—Carl G. Fisher, Prest., Alton Beach Realty Co., 210 12th St., Miami, Fla.—Second-hand sheet steel piling.

Pipe.—City of Union, S. C., L. C. Wharton, Mayor.—Prices on 8 and 10-in. water pipe, delivered Union.

Press (Hydraulic Wheel).—Chas. A. McLean, 412 Citizens' Bank Bldg., Norfolk, Va.—Hand-power hydraulic wheel press of about 100 tons, with capacity for 36-in. wheel.

Pulverizing (Tobacco) Machinery. O. M. Wood & Son, 341 Main St., Carrollton, Ky.—Machinery to pulverize and dry tobacco for fertilizer.

Pump (Turbine).—Navy Dept., Bureau Supplies and Accounts, Saml. McGowan, Paymaster-Gen., Washington, D. C. — Bids until Feb. 9 for delivering turbine pump at Naval Academy, Annapolis, Md. For proposals apply to navy pay office, Baltimore, Md., or to Bureau.

Punch and Shears. — Jay Dillenback, East Rochester, N. Y.—New or second-hand lever punch and shear combined; also sheet metal slitting shear, new or second-hand; state make and capacity.

Rails.—Thaw & Williams, Bell Block, 6th and Vine Sts., Cincinnati, O.—To rent 4 mi. of track, Indiana delivery.

Rails.—Chas. F. Douglass, Anniston, Ala. Addresses of handlers of second-hand rails for dummy track.

Rails.—See Milling Machine, etc., Navy Dept.

Radio Tower Foundations. — Navy Dept., Bureau of Yards and Docks, H. R. Stanford, Chief, Washington, D. C.—Bids for foundations for radio towers received until March 13 at naval station, Cavite, P. I., or bureau, Washington, to construct concrete and pile foundations for three 600-ft. steel radio towers, Cavite; plans and specifications on application to bureau or to commandant of naval station named.

Reservoir Construction.—Gordonsville, Va., W. H. Sindlinger, Chrmn. Water Committee, Gordonsville, Va.—Bids until Feb. 15 to enlarge reservoir on Cameron's Mountain, 1½ mi. from city; about 1000 yds. concrete and 3000 yds. earth; profiles, specifications and blank forms of contract can be seen Feb. 10; J. L. T. Sneed, Secy. Trustees.

Road Construction. — Howard County Commrs., M. J. Sullivan, Clerk, Ellicott City, Md.—Bids until Feb. 9 to construct 1.74 mi. State highway in Fourth Election Dist., known as Woodbine-Lisbon Rd.; bids to be made on blank forms obtained from State Roads Com., 601 Garrett Bldg., Baltimore; plans can be seen and forms of specifications and contract obtained from State Roads Com.

Roofing.—See Building Materials.

Sash Devices and Hardware.—Dept. of Justice, Office of F. H. Duehay, Supt. of Prisons, Washington, D. C.—Bids until Feb. 23 to furnish at U. S. Penitentiary, Leavenworth, Kan., sash-operating devices and hardware for east main cell wing; copies of specifications at office.

Seating.—Bostwick & Faulk, contractors, Johnson City, Tenn.—Prices on opera chairs for courtroom, courthouse, Erwin, Tenn.

Separators (Grits). — Cummings Machinery Agency, 1216 Main St., Columbia, S. C.—Correspondence with manufacturers of grits separator, capacity 20 to 50 bus. per hour from the mill.

Sewer Construction. — City Commrs., City Hall, Tulsa, Okla.—Bids at office City Auditor until Feb. 1 to construct sanitary sewer with necessary inlets, manholes and other appurtenances in blocks 116 and 139 of original townsite, Sewer Dist. No. 30; sewer to have interior diameter of 8 in.; plans, profiles and specifications on file with T. C. Hughes, City Engr.

Sewing Machines, etc.—Varsity Mfg. Co., Leonard H. Weil, Prest., 2409 Eastern Ave., Baltimore, Md.—Machinery to increase capacity by 300 doz. garments weekly or more; for underwear factory.

Shears. — See Punch and Shears, Jay Dillenback.

Shingle Machine. — See Woodworking Machinery, Cape Fear Lath & Shingle Co.

Stable Equipment. — W. T. Robey, Buena Vista, Va.—Prices on iron feeding trough and stalls.

Steel Beams.—See Building Materials.

Steel Frames. — R. E. Young, general delivery, Athens, Ga. — 100 steel frames, about 36x72 in., made of 3 or 4-in. channel; will furnish detailed specifications on application.

Stone.—U. S. Engr. Office, W. C. Langfitt, Col., Engrs., Savannah, Ga.—Bids until Feb. 24 to furnish and place stone for raising low places in jetty at Savannah Harbor, Ga.; information upon application.

Structural Steel.—Box 247, Mobile, Ala. Second-hand structural steel; suitable for 40x90-ft. building.

Sulphur.—F. A. Lankford, care Virginia Mercantile Agency, Cloverdale, Va.—Sulphur. (See Lime, etc.)

Tanks (Car).—Pennsylvania Equipment Co., Philadelphia, Pa.—Several car tanks, 5000 to 8000 gals. capacity, suitable for water storage.

Tender (Motor Dredge).—U. S. Engr. Office, Trust Co. Bldg., Postoffice and Tremont Sts., Galveston, Tex.—Bids until Feb. 23 for construction of motor dredge tender La Porte; information on application; C. S. Riche, Lieut.-Col. Engrs.

Underwear Factory Equipment.—See Sewing Machines.

Vessels.—Bureau of Lighthouses, Dept. of Commerce, Washington, D. C.—Bids until Feb. 24 to furnish materials and labor for construction, equipment and delivery of 2 single-screw, steel, oil-engine propelled light vessels, Nos. 101 and 102, for use on Atlantic coast; blank proposals and particulars obtainable from Commr. of Lighthouses.

Wagons (Lumber).—O. W. Stone, Victoria, Tex.—Addresses of builders of lumber wagons.

Waterproofing Compounds. — Cement Products Co., 1015 Murchison Bldg., Wilmington, N. C. — Prices on waterproofing compounds and paint for concrete.

Webbing (Elastic), etc.—M. W. Parrish, Asheboro, N. C.—Addresses of manufacturers of elastic webbing, suspender buckles and supporter buckles.

Wire (Metal and Woven).—Cement Products Co., 1015 Murchison Bldg., Wilmington, N. C.—Prices on expanded metal and woven wire for reinforcing.

Wire (Galvanized), Wire Work, etc. — Bensussan, Sides & Co., Salonique, Greece.—Prices from manufacturers and exporters on following: Paris nails (pointes de Paris) packed in sacks, 19 to 20 kilos nails each, secured in strong paper, and 5 sacks packed in one large sack, openings, etc., well secured; specifications should give extra minimum of 1.45 of franc above real price, and proposal give minimum delivery of 10 tons at single shipment. Wants samples and prices, c. i. f. Salonique, on 100 kilos galvanized wire for B. W. G. No. 12 of 2 strands and 4 points at distance of 6 millimeters on bobbin of 18 to 19 kilos weight net; annealed iron wire Y. de P., No. 12, in rows of 25 kilos, not counting the package, 4 rows to be packed together; bed springs double 22x6, 36x6, 36x7 and 36x8, in packages of 23 kilos net, put up in tarred paper and cloth, 4 packages enclosed in one large package; wire gratings and wire work and rivets; tacks; shoe nails, iron and tin; sheet iron, plain and galvanized; bolts, steel and iron of all kinds; shoemaker's wooden pegs; sole leather in 5 to 8-kilo packages; matches, candles, rice, coffee, sugar, twine, rope, draperies and hangings, sheet zinc, cigarette paper, canned alimentary products, Calcutta bagging, wax cloths and paper, lead and iron pipe, handkerchiefs, towels, plain and printed cotton goods; uncoated, copper and tin-coated iron wire.

Woodworking Machinery. — N. A. Alexander, 401 Washington St., Dublin, Ga.—Second-hand machine for turning wooden axles; also pin and bracket machine.

Woodworking Machinery.—Cape Fear Lath & Shingle Co., B. H. Malpuss, Mgr., 113 S. Front St., Wilmington, N. C.—Lath machine, 3 to 4-saw; bolter; binder; power-feed (Lane's) shingle machine; second-hand and good condition.

FINANCIAL NEWS

The MANUFACTURERS RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

FINANCIAL CORPORATIONS

Ala., Birmingham. — American Trust and Savings Bank has absorbed the Commercial Bank & Trust Co. W. W. Crawford is Prest. of the former institution.

Ala., Lincoln.—Lincoln Bank & Trust Co. chartered; capital $25,000; J. H. Wilson, Prest.; G. L. Schmidt and D. H. Shillen, V.-Ps.; W. L. Hollingsworth, Cash. Business is to begin about Feb. 1.

Fla., Eau Gallie.—New bank is being organized with A. E. Morgan, Prest. Offices will be in the Glenson Bldg.

Fla., Kenansville.—First State Bank of Kenansville is being organized with $15,000 capital.

Fla., Key West.—The United Services Investment Co. has filed articles of incorporation; capital $60,000. Petitioners: H. B. Boyer, E. M. Martin, Geo. B. Schmucker, W. H. Malone and G. M. Guiteras.

Fla., Kissimmee.—A trust company is reported being organized by W. L. Hyer, Wm. Davies and J. D. Boggs of Orlando, Fla., and W. S. Witham of Atlanta, Ga.

Fla., Wauchula.—Carlton National Bank is chartered; capital $50,000.

Ga., Macon.—Winship Insurance & Real Estate Co. has made application for charter; capital $1000, with privilege of increasing to $20,000,000; petitioners, Ike Winship, Charlie White and W. D. McNeil.

Ky., Frankfort.—Paducah Banking Co. has filed articles of incorporation; capital $100,000; incorporators, H. C. Overby, J. F. Abell, L. S. DuBois, F. G. Rudolph, F. N. Nagel, Charles K. Wheeler and J. U. Fry.

Ky., Georgetown. — Georgetown Building and Loan Assn. has filed articles of incorporation; capital $100,000; directors, J. W. Thacker, J. J. Caden, J. R. Downing, Porter Nunnelley, W. J. Carley, J. Craig Bradley, Gus Margolen, J. Stuart Humphrey and S. L. Allen.

Ky., Paducah.—Paducah Banking Co. has filed articles of incorporation; capital $100,000; incorporators, Henry C. Overby, J. F. Abell, L. S. DuBois and Felix G. Rudolph.

Ky., Pleasureville.—Farmers and Drovers' Bank and the Deposit Bank have consolidated under the name of the Deposit Bank of Pleasureville; capital $30,000. Ambrose Dudley is Prest.; J. E. Kephart, 1st V.-P.; G. M. Wilroy, 2d V.-P.; William S. Threlkeld, Cash.; N. E. Skidmore, Asst. Cash.

Miss., Iuka.—State Guaranty Bank is organized with $15,000 capital; incorporators, J. C. Jourdan, C. B. Massey, Mrs. M. A. Harris, Mrs. A. P. Gains and L. T. Gains of Iuka, and A. L. Jagoe of Okolona.

Mo., Campbell.—First State Bank is to be organized with $50,000 capital. E. J. Walker of Campbell and J. M. Groff of Bridgeport, Ill., are the promoters. Business is exported to begin about Feb. 15.

Mo., Medill.—Farmers' Bank chartered; capital $10,000 ($5000 paid in), surplus $2000; directors, A. S. Harkness, Prest.; Geo. Hess, Sr., V.-P.; George E. McHugh, Cash.; G. M. Drallinger, Secy.; T. W. Dorsey and T. V. Wendling. Business began Jan. 5.

Miss., Itta Bena.—First National Bank of Itta Bena chartered; capital $50,000; U. Ray, Prest.; A. B. Reese, Cash. This succeeds the Bank of Itta Bena.

N. C., Carthage.—Page Trust Co., formerly Bank of Carthage, is incptd. as a branch of the Page Trust Co., Aberdeen, N. C.; capital $50,000; J. R. Page, Prest.; H. A. Page, V.-P.; Frank Page, Treas.; S. A. Page, Jr., Asst. Treas., all of Aberdeen. Business began January 18.

N. C., Forest City.—Farmers' Bank & Trust Co. has made application for charter; capital $100,000; incorporators, J. F. Alexander, J. H. Thomas and W. W. Hicks. It is stated that the new bank will be merged with the Carolcen Savings Bank. J. H. Thomas, cashier of the Carolcen Bank, will also be cashier of the new institution. Business is expected to begin about Feb. 1.

Okla., Rosston.—First National Bank has made application to organize; capital $25,000; organizers, J. W. Berryman, Ashland, Kans.; D. H. Walker, G. White, J. F. Fair and A. M. Van Laningham.

Okla., Elmer.—Bank of Elmer and the Farmers' State Bank of Elmer have consolidated under the name of the former institution. W. F. George is Cash.

Okla., Commerce.—First National Bank of Commerce chartered; capital $25,000; J. F. Robinson, Prest.; A. R. Botts, Cash.

Okla., Tulsa.—J. C. Letcher, Secy. Tulsa Commercial Club, says that S. R. Heller, representing the Universal Savings & Loan Corporation of Norfolk, Va., is in Tulsa endeavoring to organize an institution to work under the plans as outlined by the Universal Savings & Loan Corporation. Work has not progressed far enough to have been given a name.

S. C., Aynor.—Planters' Bank is organized with $10,000 capital. W. P. Lewis, Prest.; E. A. Jordan, V.-P.; Charles F. Powell, Cash.

S. C., Cowards.—Farmers & Merchants' Bank (formerly Cowards branch of Lake City, S. C.) is chartered; capital $10,000; surplus $2000. Directors: J. C. Lynch, Prest.; F. J. Cottingham, V.-P.; E. L. Montgomery, Cash.; Z. C. Lynch and E. M. Singleton.

Tenn., Camden.—The Benton County Bank and the First National Bank have merged under the name of the latter institution; capital $25,000, surplus $5000; S. L. Peeler, Prest.; T. J. Lory, 1st V.-P.; J. J. Cole, 2d V.-P.; Albert S. Justice, Cash.; W. T. Morris, Asst. Cash.

Tenn., Colliersville.—A new bank is being organized with $15,000 capital, which will probably be increased to $25,000 before charter is applied for. Among those interested are Samuel Hinton, J. M. Mann, J. P. Humphreys, W. W. McGinnis, T. H. Humphreys, J. M. Ward, all of Collierville, and J. N. Brown, Olive Branch, Miss.

Tenn., Decaturville.—The Decatur County Bank and the Farmers' Savings Bank have consolidated under the name of the former institution; capital $30,000.

Tenn., Ridgely.—The Planters' Bank and the Bank of Ridgely have consolidated under the name of the former institution; capital $40,000. W. R. Algee, Prest.; W. N. Wyatt, V.-P.; B. F. Hardison, Cash.

NEW SECURITIES

Ala., Birmingham.—$300,000 5 per cent. 1-6-year Jefferson county jail warrants have not yet been sold. R. F. Lovelady is Prest. Board of Revenue. (Previously noted.)

Ala., Birmingham.—Board of Commrs. has passed an ordinance authorizing an issue of $29,000 5½ per cent. public-improvement bonds.

Ark., Harrison.—Election to vote on $45,000 water-works bonds will be held Feb. 22. Geo. C. Frew is Mayor.

Ark., Judsonia.—$30,000 6 per cent. Judsonia Drainage Dist. bonds have been purchased by the Mississippi Valley Trust Co.

Ark., Marion.—Board of Directors of St. Francis Levee Dist, has adopted a resolution authorizing an issue of $465,000 of bonds, $200,000 of which is to be used in paying all certificates of board, and the balance for paying uncompleted contracts.

Ark., Rogers.—Election is to be held Feb. 18 to vote on $10,000 6 per cent. fire-equipment bonds; maturity $1000 July 1, 1916, and $1000 each year thereafter; denomination $100. Address E. F. Jackson, City Treas. (Previous item gave amount as $18,000.)

Fla., Apalachicola.—$20,000 4½ per cent. 20-year Franklin county road bonds have been purchased at par and accrued interest, less $2400 for expenses, by Cutter, May & Co., Chicago.

Fla., Bartow.—Election is to be held Feb. 16 to vote on $6000 6 per cent. 20-year bonds Special Tax School Dist. No. 9. C. A. Parker is Secy. Board of Public Instruction.

Fla., Bartow. — $39,000 paving certificates have been purchased by A. B. Leach & Co., New York.

Fla., Bay Minette.—$35,000 of water, sewer and electric-light bonds are sold. W. D. Stapleton is Mayor.

Fla., De Land.—$20,700 6 per cent. 5-20-year refunding and fire truck and machinery bonds are voted. Sewer and paving bonds defeated; V. M. Fountain, G. A. Dreka and C. O. Codrington, bond trustees. John MacDiarmid is Mayor.

Fla., Ft. Myers.—$10,000 5 per cent. 20-year Dist. No. 5, Lee county, school bonds have been purchased at par by Sidney Spitzer & Co., Toledo.

Fla., Felismere.—Election is to be held Feb. 16 to vote on $25,000 6 per cent. 10-20-year Special Tax School Dist. No. 14, St. Lucie county, bonds; denomination $1000. If bonds carry they will be offered for sale 30 days after election. E. R. Moore is Secy. Board of Public Instruction, St. Lucie county, at Fort Pierce.

Fla., High Springs.—$6000 school improvement bonds recently voted are 6 per cents. Address E. K. Anderson.

Fla., Jacksonville.—Election is to be held in Duval county to vote on $300,000 funding bonds. Address County Commrs.

Fla., Jacksonville. — Petitions have been signed by voters of Special School Tax Dist. No. 1, calling for election to vote on $1,000,000 bonds, and same will probably be held March 13. F. A. Hathaway is Supt. of Public Instruction.

Fla., Miami.—Steps are being taken to call an election in Dade county to vote on $100,000 highway construction bonds. Frank A. Bryan is Chrmn., Fort Lauderdale.

Fla., New Smyrna. — The $63,000 waterworks, sewer and funding bonds voted Jan. 12 are 6 per cents; denomination $1000; maturity Feb. 1, 1925 to 1945, inclusive. Date for opening bids not yet decided. Address Board of Public Works. W. H. Newell is Mayor.

Fla., Sanford. — $100,000 Seminole county road bonds are to be placed on the market Mch. 8. Address County Commrs., D. D. Buie, Chrmn.

Fla., Seabreeze.—$15,000 6 per cent. 30-year water-works bonds recently voted have been purchased by local parties. A. T. Bigelow is Mayor.

Fla., Tavares.—$15,000 6 per cent. 20-year Special School Dist. No. 18 school bonds are voted. Date for opening bids not yet decided. Wm. T. Kennedy is Secy. Board of Education at Umatilla, Fla.

Fla., West Palm Beach.—Board of Commrs. Palm Beach County, Frank E. Eucell, Chrmn., is considering question of issuing $50,000 of warrants for road construction.

Ga., Atlanta.—$3,500,000 4½ per cent. bonds to refund present indebtedness of Georgia will soon be placed on the market; denomination $500. Address John M. Slaton, Governor.

Ga., Canton.—City is reported to have sold $35,000 5 per cent. bonds. Address The Mayor.

Ga., Hawkinsville.—Election is to be held Feb. 17 to vote on $20,000 water and sewerage and $15,000 school building 5 per cent. 29-year bonds; dated May 1, 1915; denomination $1000. Address The Mayor.

Ga., Louisville.—$12,000 5 per cent. 30-year sewer and water bonds have been purchased by J. H. Hilsman & Co., Atlanta.

Ga., Louisville.—$12,000 5 per cent. 30-year sewer and water bonds have been purchased by J. H. Hilsman & Co., Atlanta, Ga.

Ga., Monroe.—$19,000 5 per cent. 20-30-year improvement bonds have been sold. J. D. Kent is City Clerk.

Ga., Richland.—Election will probably be held to vote on sewer bonds. Address Mayor Moses.

Ga., Savannah.—The $200,000 auditorium bonds for which bids are being received until noon Feb. 6 are 4½ per cents; dated Oct. 15, 1914; maturity Oct. 15, 1915 to 1939, inclusive. R. J. Davant is Mayor.

Ky., Barbourville.—Election is to be held in Knox county March 6 to vote on $200,000 road bonds. Address County Commrs.

Ky., Corbin.—Bids will be received until 7.30 P. M. Feb. 9 by J. J. Price, City Clerk, for $10,000 6 per cent. 1-10-year electric-light $1000 bonds voted Nov. 3, 1914; dated Jan. 1, 1915. Jas. T. Helson is Mayor.

Ky., Dawson Springs.—Bids will be received at any time by Judson Jenkins, Supt. of School Board, Dawson Springs School Dist., for $10,000 5 per cent. $500 bonds.

Ky., Greenup.—$200,000 5 per cent. Greenup county road bonds voted, $40,000 of which are to be sold now; denomination $100 to $1000. J. G. Prichard is County Clerk.

Ky., Morganfield.—At 11 A. M. Feb. 10 city will sell $17,290.92 6 per cent. 1-10-year street-improvement bonds; denominations, $100, $500 and $5000. W. T. Harris is Mayor and A. F. Waller Clerk.

Ky., Wickliffe.—Election is to be held in Ballard county Feb. 27 to vote on $300,000 road bonds. Address County Commrs.

Ky., Louisa.—Election is to be held in Lawrence county Mch. 15 to vote on $100,000 road bonds. Address County Commrs.

Ky., Maysville.—Election is to be called in May to authorize an issue of $200,000 road bonds. W. H. Rees is County Atty.

Ky., Mount Vernon.—Petition is to be filed to call an election in Rockcastle county March 25 to vote on $100,000 road bonds. Address G. M. Ballard.

Ky., Williamsburg.—Election will probably be held in Whitley county Apr. 1 to vote on $300,000 road bonds. Address County Commrs.

La., Alexandria.—$100,000 5 per cent. 10-year bonds Rapides Parish Road Dist. No. 2 are voted; $75,000 5 per cent. 10-year bonds Dist. No. 4, Rapides parish, defeated. Address Police Jury, C. E. Robinson, Prest.

La., Lake Charles.—$300,000 certificates of indebtedness for road and bridge improvements issued by Calcasieu parish have been purchased by J. C. Mayer & Co., Cincinnati.

La., Plaquemine.—$42,000 5 per cent. improvement bonds have been purchased at par by Bash & Jones, Joplin, Mo.

La., Shreveport.—$73,000 4½ per cent. improvement bonds, being part of $101,500 improvement issue of 1913, are reported sold. B. H. Ward is Commr. of Finance and Revenue.

La., Westover.—Bids will be received by the Bayou Nolan Drainage Dist. of West Baton Rouge Parish, W. A. Easton, Secy. and Treas., for $20,000 5 per cent. drainage bonds; dated March 1, 1915; denominations $100, $500 or $1000.

La., White Castle.—All bids received Jan. 12 for $60,000 5 per cent. 40-year White Castle Drainage Dist. bonds were rejected, and negotiations are now being made to dispose of them through private source. S. M. Levy is Secy. and Treas.

Mo., Kansas City.—An election will probably be held within 60 days to vote on $2,250,000 of bonds as follows: Plaza extensions and traffic way approaches to Union Station, $800,000; viaducts and bridges, $400,000; sewers, $600,000; garbage disposal, $300,000; approaches to lower deck of 12th St. traffic way and links for traffic way system through Kansas City, $200,000; fire station and equipment, 200,000; police station, $150,000; park improvements, $500,000; hospital improvements, $150,000; Board of Public Welfare, for municipal farm and woman's reformatory, $100,000. Henry J. Jost, Mayor.

Miss., Hickory. — The $10,000 of school bonds for which bids are being received by M. G. Scarborough, Town Clerk, until noon Feb. 2, are 20-year 6 per cents; denomination $500; dated May 1, 1914.

Miss., Okolona.—Election is to be held Feb. 9 to vote on $58,000 sewerage bonds. Address The Mayor.

Mo., Fulton.—Ordinance is to be prepared calling for an election to vote on $10,000 of park bonds. Address The Mayor.

Mo., Potosi.—Bids will be received at any time by Ed T. Eversole, Chrmn. Trustees Breton township, Washington county, for $25,000 5 per cent. $500 road bonds. These bonds were unsuccessfully offered Dec. 8.

Mo., Knob Lick.—$1800 6 per cent. school district building bonds have been purchased by the Little & Hays Investment Co., St. Louis.

Mo., Maryville.—$50,000 6 per cent. 4-year Polk township, Nodaway township, road bonds are reported sold. Address County Clerk.

N. C., Charlotte.—Application is to be made to the Legislature asking that bill authorizing $200,000 bonds to refund floating debt be amended, changing rate of interest from 4½ to 5 per cent. A. M. McDonald is Chrmn. Board of County Commrs.

N. C., Columbia.—$4000 Tyrrell county funding bonds have been purchased at par by local investors. Address County Commrs.

N. C., Danbury.—$50,000 Quaker Gap township, Stokes county, road bonds defeated.

N. C., Marshall.—$150,000 5 per cent. 30-year Madison county road-improvement bonds have been purchased by the Wachovia Bank & Trust Co., Winston-Salem, N. C. J. B. Clingman is County Road Engr.

N. C., Marion.—$12,000 6 per cent. 15-year Old Fort School Dist., McDowell county, bonds have been purchased by the Hanchett Bond Co., Chicago.

N. C., Monroe.—Bill has been introduced in the House authorizing an issue of school bonds. Address Board of Education.

N. C., Norlina.—Application is to be made to the Legislature for authority to vote on water, light, street and school-improvement bonds. Address The Mayor.

N. C., Sanford.—$100,000 Lee county road bonds voted Jan. 16 are 30-year 5 per cents; denomination $500. Address County Commrs. Ralph Monger is Register of Deeds.

N. C., Waynesville.—Application is to be made to the General Assembly of North Carolina for authority to issue water-works bonds. C. H. Ray is Mayor and J. H. Howell Clerk.

N. C., Wilmington.—$35,000 5 per cent. 10-20-year New Hanover county bonds have been purchased by Baker, Watts & Co., Baltimore.

Okla., Afton. — $37,000 sewer bonds are voted. Address Board of Trustees.

Okla., Chandler.—$60,000 6 per cent. Drainage Dist. No. 1, Lincoln county, bonds have been purchased by the Hanchett Bond Co.

Okla., Enid.—The report that election was called for Jan. 14 to vote on $50,000 water-works bonds is denied by Peter Bowers, Mayor.

Okla., Idabell.—$122,000 5 per cent. 10-25-year McCurtain county road and bridge bonds defeated.

Okla., Kiefer. — $60,000 water-plant bonds were recently voted. An injunction against the sale of the bonds has been asked by the taxpayers. Address The Mayor.

Okla., New Cordell (P. O. Cordell).—$75,000 6 per cent. water-improvement bonds have been purchased at $260 premium by A. J. McMahan, Oklahoma City.

Okla., Tulsa.—$500,000 5 per cent. 20-year $1000 school bonds have been purchased at par and accrued interest from Jan. 15 to date of acceptance, plus a bonus of $101, by G. R. McCullough, Prest. First National Bank of Tulsa.

S. C., Columbia.—Steps are being taken to call an election to vote on $300,000 waterworks and $200,000 sewer bonds. An election held last year was declared illegal. Address John W. Lillard, Chrmn. Chamber of Commerce.

S. C., Spartanburg.—Election is to be held in Spartanburg county March 16 to vote on $300,000 20-year road bonds; interest not to exceed 4½ per cent. Address County Commissioners.

S. C., Union.—Election is to be held Feb. 16 to vote on $25,000 20-40-year water and sewer bonds; interest not to exceed 6 per cent. L. C. Wharton is Mayor.

Tenn., Chattanooga.—Bids will be received until 10 A. M. Feb. 3 by T. C. Thompson, Mayor, for 6 per cent. 1-4-year paving district bonds as follows: No. 68, $1225.64, dated Nov. 28, 1914; No. 44, $11,565.20, dated Dec. 23, 1914.

Tenn., Clarksville.—Bill has been introduced in the Senate authorizing an issue of $79,900 bonds. Address The Mayor.

Tenn., Clinton.—$40,000 Anderson county road bonds are voted. Address County Commissioners.

Tenn., Greeneville.—Bill has been introduced in the House authorizing Greene county to issue $50,000 courthouse bonds. Address County Commrs.

Tenn., Memphis.—An amendment to the bill authorizing $3,000,000 of bonds is offered, providing that the bonds shall mature 5 to 40 years from date of issue. Address The Mayor.

Tenn., Nashville.—Bill has been introduced in the Legislature authorizing Davidson county to issue $100,000 5 per cent. bonds for buildings on county asylum grounds, woman's building on State fair grounds, and to provide payment of the bonds and interest. Address County Commrs.

Tex., Angleton.—$25,000 Road Dist. No. 4, Brazoria county, bonds have been purchased by E. A. Tobelman of Galveston.

Tex., Austin.—Commrs.' Court is being petitioned to call an election in Travis county to vote on $150,000 hospital bonds. Address County Commissioners.

Tex., Austin. — Attorney-General has approved the following securities: $10,000 5 per cent. 10-40-year bonds Refugio county common school Dist. No. 5; $10,000 5 per cent. 10-40-year bonds Refugio county common school Dist. No. 10; $9000 5 per cent. 20-40-year bonds Woodsboro independent school Dist., Refugio county; $2500 5 per cent. 5-20-year bonds Calhoun county common school Dist. No. 13; $1950 Calhoun county bridge repair bonds; $25,000 5 per cent. 10-40-year bonds Coolidge independent school Dist., Limestone county; $5000 5 per cent. 20-40-year bonds El Dorado common school Dist. No. 12; $1000 5 per cent. 10-20-year bonds Trinity county common school Dist. No. 35.

Tex., Beaumont.—Election is to be held Mch. 3 to vote on $150,000 Island Park improvement bonds. J. G. Sutton is City Secy.

Tex., Bryan.—Election is to be held March 3 in Brazos county to vote on $400,000 road bonds. Address County Commrs.

Tex., Corpus Christi.—$165,000 5 per cent. 10-40-year Nueces county causeway bonds were recently purchased by William R. Compton Co., St. Louis. Denomination $1000. Dated April 10, 1914.

Tex., Denison.—Commrs. of Grayson county will be petitioned to call an election to vote on $900,000 of road bonds.

Tex., Dickens.—$12,000 Dickens county road bonds are voted. Address County Commrs.

Tex., El Paso.—$360,000 5 per cent. 20-40-year courthouse and jail bonds have been purchased at par, accrued interest and premium of $25, less $3985 commission, by Field-Richards Co., Cincinnati, O.

Tex., Fort Worth.—City will probably float a loan of $400,000 for water-works improvements. Address Mayor Milam.

Tex., Granbury.—$25,000 water-works construction bonds are voted and will be put on the market in the near future. Address The Mayor.

Tex., Junction City.—$11,000 of an issue of $25,000 5 per cent. 10-40-year bonds Road Dist. No. 1, Kimble county, have been purchased by J. L. Arlitt, Austin, Tex. Bonds are dated August 1, 1914.

Tex., Kingsville.—$7500 of 8 per cent. 1-7-year Kleburg county warrants for sidewalks and fixing grounds around courthouse and County Hospital have been purchased by J. L. Arlitt. Ben F. Wilson is County Judge.

Tex., Rockport. — $25,000 Aransas county road bonds will soon be offered for sale. Address County Commrs.

Tex., San Marcos.—$50,000 5 per cent. 40-year bonds Road Dist. No. 2, Hays county, have been purchased by J. L. Arlitt, Austin, Tex. Bonds are dated Feb. 16, 1914, maturing 1954, optional serially.

Tex., Sulphur Springs.—$30,000 5 per cent. paving bonds have been purchased by J. B. Oldham of Dallas, Tex.

Tex., Temple.—Bids are reported being received by J. A. Wilkerson, Secy. School Board, for $40,000 5 per cent. 20-40-year Temple School Dist. school-improvement bonds.

Tex., Waco.—$15,000 street, $18,000 sewer and $12,000 bridge 5 per cent. 30-year bonds defeated.

Tex., Wharton.—$60,000 5 per cent. 40-year Drainage Dist. No. 3, Wharton county, bonds defeated. W. G. Davis is County Judge.

Tex., Wichita Falls.—$45,000 street paving bonds are voted. Address The Mayor.

Va., Abingdon.—An issue of 6 per cent. Washington county road-improvement bonds have been purchased by Baker, Watts & Co., Baltimore.

Va., Boydton.—Election is to be held Feb. 10 to vote on $30,000 Bluestone Road Dist., Mecklenburg county, bonds. Address County Commrs.

Va., Culpeper.—$12,000 5 per cent. Salem Magisterial Dist., Culpeper county, road-improvement bonds, Series 1, have been purchased at par by local parties. Address County Commrs.

Va., Dublin.—$5000 6 per cent. 10-30-year water-system-completion and street-curbing bonds are voted. Geo. C. Moomaw is Mayor.

Va., Lynchburg.—City will apply to Legislature for authority to issue $300,000 bridge bonds. Address The Mayor.

Va., Portsmouth.—Bill is to be introduced in the Legislature providing for the issuing of $250,000 Norfolk county road and bridge bonds. Address County Commrs.

Va., Salem.—Election is to be held in Roanoke county March 2 to vote on $90,000 Cave Springs Dist. road-improvement bonds. Address County Commrs., Chas. D. Denit, Clerk.

W. Va., Bridgeport.—$23,500 of water-works bonds are voted. Address The Mayor.

W. Va., Christiansburg.—Bids will be received until noon Feb. 23 by George W. Wilson, Clerk Board of Supvrs. Montgomery County, for $35,000 4 per cent. 20-30-year $500 road bonds.

W. Va., Cyclone.—$40,000 5 per cent. 10-34-year Triadelphia Dist. school bonds are being offered. Address W. R. Hinchman, Secy. Board of Education, Triadelphia Dist., Logan county.

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Hopkins Place, German and Liberty Streets
Capital, $1,000,000
August 9th, 1913, Surplus and Profits, $764,091.00
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SUMMERFIELD BALDWIN, Vice-Pres.
R. VINTON LANSDALE, Cashier.
C. G. MORGAN, Asst Cashier.
Accounts of Mercantile Firms, Corporations, Banks, Bankers and Individuals Invited.

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Contemplating the Establishment of Industrial Enterprises
Attention is called to the exceptionally favorable location of
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Maryland Road and Bridge Contracts.

The Maryland State Roads Commission, Baltimore, opened proposals on January 20 for road and bridge paving and bridge construction. Many contractors were represented in the bidding, and the lowest bidders submitted proposals lower than the engineers' estimates of the cost. The contracts for road construction total about $224,000 for about 14 miles of macadam and concrete paving, $73,000 for paving the roadway of the Hanover-street bridge now being built at Baltimore, and $109,000 for constructing sections 7 and 8 of the Hanover-street bridge. The bids submitted were as follows:

Paving.

Queen Anne's County, through Church Hill, .67 mile:

Bidder. Address.	Amount. Macadam.	Amount. Concrete.
Betts & Boice, Chestertown, Md.	$10,928 50	.....
H. B. Sproul Contracting Co., Peekskill, N. Y.	*7,920 00	*$8,503 00
The Juniata Co., Philadelphia	8,071 50	9,286 80

Dorchester County, Linkwood to Mt. Holly, 3.66 miles:

The Juniata Co., Philadelphia	40,816 50	49,843 50
Holt Construction Co., Denton, Md.	40,890 75	44,504 25
Betts & Boice, Chestertown, Md.	40,847 20	.....
Ambler-Davis Co., Philadelphia	.....	.....
Hollingsworth & McDowell, Marshalliton, Del.	42,278 60	51,907 20
Luck Construction Co., Roanoke, Va.	**36,700 00	44,220 00
Bond & Fideli, Baltimore	39,460 45	*42,772 25
McNerney Construction Co., Canton, Pa.	.....	†51,038 20
McNerney Construction Co., Canton, Pa.	.....	.....
Chesapeake Construction Co., Preston, Md.	40,529 25	44,142 45

St. Mary's County, Ridge to Confederate Monument, 3.64 miles:

Burgess Bros. & Burgess, Scottsville, Va.	11,356 08	.....
Betts & Boice, Chestertown, Md.	9,122 74	.....
Luck Construction Co., Roanoke, Va.	11,777 56	.....
Wm. P. McDonald Construction Co., New York, N. Y.	11,282 08	.....
Winston & Co., Brown Station, N. Y.	13,408 40	.....
Fred Taylor, Sollers, Md.	**8,923 66	.....

Garrett County, through Grantsville, .85 mile.:

Rob Roy Construction Co., Albany, N. Y.	11,134 92	11,888 94
Bamberger-Chapman Co., East Orange, N. J.	9,162 12	11,841 70
Hoblitzel & Price, Meyersdale, Pa.	*9,157 12	*10,075 20
Brady Bros., Frostburg, Md.	Irregular	.....

Prince George's County, Meadows to Camp Springs, 3.01 miles:

H. S. Swann, La Plata, Md.	.....	**32,198 56
Luck Construction Co., Roanoke, Va.	36,029 40	36,764 44
W. H. H. Allen Construction Co., Washington, D. C.	.....	33,136 50
Lyons Bros., Washington, D. C.	*30,541 95	50,957 73
W. C. Evans, Ambler, Pa.	46,195 60	47,733 48
Clark-Hayward Co., Baltimore	.....	36,314 45
Winston & Co., Baltimore	.....	32,605 20
Criswell-Mallery Co., Mechanicsville, N. Y.	.....	33,011 52
P. F. Connolly Co., Boston	.....	33,636 98
McNerney Construction Co., Baltimore	.....	‡39,501 40
McNerney Construction Co., Baltimore	.....	.....
Thos. Mullan, Baltimore	.....	34,652 22

Prince George's County, Upper Marlboro to Hills Bridge, 2.44 miles:

H. S. Swann, La Plata, Md.	.....	28,643 11
E. Ward Brown, Port Deposit, Md.	33,258 05	32,479 75
Betts & Boice, Chestertown, Md.	.....	29,231 05
F. M. Dewall, Annapolis, Md.	.....	31,073 11
W. H. Hallen Construction Co., Washington, D. C.	.....	34,220 70
W. C. Evans, Ambler, Pa.	31,575 55	35,254 23
Thomas, Poole & Hunter, Westminster, Md.	*27,823 70	28,458 63
Stein-March Construction Co., Philadelphia	32,918 31	32,933 71
Virginia Construction Co., Lynchburg, Va.	30,700 55	47,506 70
H. B. Sproul Contracting Co., Peekskill, N. Y.	31,765 30	32,790 15
Clark-Hayward Co., Baltimore	.....	32,948 30
Bond & Fideli, Baltimore	.....	30,321 95
Winston & Co., Baltimore	.....	30,262 30
P. F. Connolly Co., Boston	31,343 30	**27,119 01
Harper & Voiglet Co., Washington, D. C.	.....	32,755 83
McNerney Construction Co., Canton, Pa.	.....	‖35,485 92
McNerney Construction Co., Canton, Pa.	.....	.....
Thos. Mullan Co., Baltimore	31,865 97	27,248 68
Chesapeake Construction Co., Preston, Md.	32,484 57	34,119 71

Section 6—Baltimore City, Hanover-Street Bridge, 1.50 miles:

American Paving & Contracting Co., Baltimore	$82,407 85
P. Flanigan & Sons, Baltimore	**72,871 54
Union Paving Co., Schenectady, N. Y.	88,300 63

Bridge Construction.

Sections 7 and 8—Baltimore City, two spans Hanover-Street Bridge, 500 and 100 feet, respectively.

Bidder. Address.	Amount.
C. R. Simpson, New York	$147,163 32
McHarg-Barton Co., New York	129,211 50
Elkans-Tufts Co., Baltimore	154,446 75
Claiborne-Johnson Co., Baltimore	130,229 30
Sanford & Brooks, Baltimore	128,548 94
Raymond Concrete Pile Co., Baltimore	114,046 50
McLean Contracting Co., Baltimore	**108,866 72
H. P. Converse & Co., Boston	114,409 95
Luck Construction Co., Roanoke, Va.	111,523 90

*Lowest bidders. **Contract awarded. †Alternate, Soilamies, $41,412.60.
‡Alternate, Soilamies, $32,038.10. ‖Alternate, Soilamies, $27,814.10.



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they are *exactly* suited to *your special needs*. Merritt & Co. makes steel equipment of all kinds, but it has been our experience that practically no two installations are exactly the same. So we have developed what we call

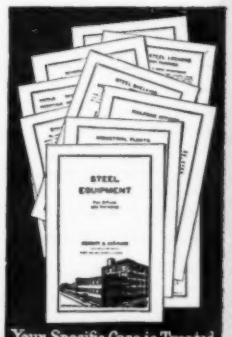
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2. Nelson Valve Co., Philadelphia
3. Southern Pacific Railway Co.
4. United States Steel Corporation

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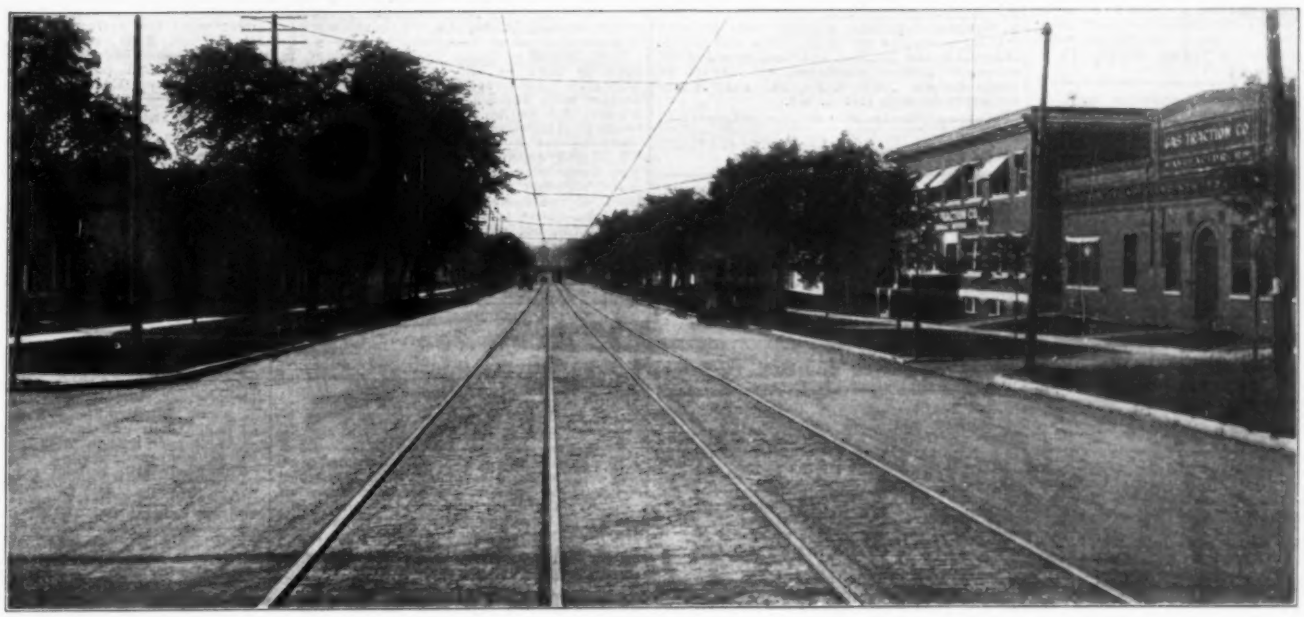


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Write To-day

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51 N. Front St. Kern Dodge, Receiver Camden, N. J.
Manufacturers of Steel Factory and Office Equipment since 1889

TRADE B MARK

Barrett's PAVING PITCH



University Avenue, S. E., Minneapolis, Minn. Creosote Blocks filled with Barrett's Paving Pitch.

A Million Yards Pitch Filled

MINNEAPOLIS has been using creosoted wood pavement ever since 1902, and now has 1,000,000 square yards of it; in fact, this city is now probably the largest user of wood block pavements in the country. In all this enormous area the filler for joints is Barrett's Paving Pitch.

Mr. Ellis R. Dutton, the Assistant City Engineer, writes on February 28, 1914: "We have used Barrett's Paving Pitch for filler for creosoted wood blocks ever since we have constructed this class of paving (i. e., since 1902), and we have found this material to be the most satisfactory in every way that we have used. We have tried different kinds of fillers, but the Paving Pitch seems to meet the requirements for which a filler is used better than any other kind, and we have been entirely satisfied with its use."

The expansion problem in wood block paving is ordinarily even more vexatious than in brick. Pitch makes "every joint an expansion joint", and thus supplies the necessary element of elasticity in the pavement.
Climatic changes set up no stress in a pitch-filled pavement. The curbs, manholes and crossings are never pushed out of position on a hot day; each block expands by itself, without affecting its neighbors. Being wholly waterproof, Barrett's Paving Pitch has additional value when used with wood block paving, because it protects the blocks from water at the sides and base.

Illustrated booklets free on request.

BARRETT MANUFACTURING COMPANY

New York Chicago Philadelphia Boston St. Louis Cleveland Cincinnati
Pittsburgh Detroit Birmingham Kansas City Minneapolis Salt Lake City Seattle

Classified Opportunities

RATES AND CONDITIONS

Rate 20 cents per line per insertion. Minimum space accepted, four lines. Maximum space accepted, 25 lines. In estimating the cost, allow seven words of ordinary length to a line. *When the advertisement contains a number of long words, proper allowance should be made.* Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, whiskey or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 18c. per line; 300 lines, 16c. per line; 500 lines or more, 15c. per line.

MEN WANTED

WANTED—Experienced manager who will buy $10,000 stock in woodworking company which has about $60,000 invested; new, modern, well-equipped plant with good business. Address J. C. Braswell, President Rocky Mount Sash & Blind Co., Rocky Mount, N. C.

IF QUALIFIED for executive, technical, mechanical, professional or administrative position carrying salary between $2500 and $12,000, write undersigned counsel, through whom strictly confidential preliminaries will be negotiated for important appointments. Send address only for prefatory details. R. W. Bixby, Lock Box 134-J4, Buffalo.

WANTED—Competent man to take charge as superintendent electric-light, water-works and ice plant; none but sober men need apply; must furnish good references. Madison Power Plant, by Ola Sanders, Chairman Water-Works Com.

CONTEMPLATE starting a knitting mill to manufacture children's socks and stockings. Anxious to discuss proposition with experienced mill manager controlling some capital and capable of taking charge. P. O. Box 1443, Atlanta, Ga.

WANTED—Mill-supply salesmen working Georgia and Alabama to carry brand of stick belt dressing as side line; something different in belt dressing, and a mighty good proposition for live salesmen. Address J., Box 621, Richmond, Va.

ENGINEERING REPRESENTATIVES.—Agents with offices in all parts of the United States to represent the Thomas Method of reinforced concrete bridge construction. W. M. Thomas, 915 Hibernian Bldg., Los Angeles, Cal.

EXPERT METAL WORKER wanted to take charge of tank department of prosperous corporation with bright future; prefer that he take small financial interest in the business. Good salary and dividends assured. No.1682, care Manufacturers Record, Balto., Md.

PARTNER WANTED

WANTED—Managing partner. Owner of new and completely equipped manufacturing plant, consisting of machine shop, foundry and wood-working plant, wants practical man for partner with $5000 or more. Plant and machinery new, up to date, never used, on Southern Railway, 60 miles from Washington, D. C. Well adapted to manufacture of farm implements, spraying machinery or automobile parts. Owner will put in plant and dollar for dollar working capital with practical, responsible partner. For particulars address Edward S. Wilder, Charlottesville, Va.

AGENCIES WANTED

WANTED—Sales agency for all lines pertaining to builders' specialties; East Tennessee as territory; can furnish satisfactory references to interested concern; modern warehouse facilities. Address Daniel Briscoe, Jr., 325-327 State St., Knoxville, Tenn.

MANUFACTURERS wishing to place their goods in Texas through salesmen covering State may submit propositions to us with all details for consideration. W. Y. Rockwell & Company, Manufacturers' Agents, Suite 712 Wilson Building, Dallas, Texas.

WE WANT to get in touch with manufacturers of agents' specialties for mail-order business. W. Y. Rockwell & Company, 712 Wilson Building, Dallas, Texas.

MANUFACTURERS' AGENT wants to represent good live concern in Western New York; first-class references. Address P. O. Box 867, Buffalo, N. Y.

SITUATIONS WANTED

KAOLIN AND CHINA CLAY MANAGER, 20 years' experience, wishes position; familiar, and competent to develop mine and prepare this commodity at lowest cost; best of references. Address No. 1663, care Manufacturers Record, Balto., Md.

DESIRES POSITION south of Baltimore, Mechanical Engineer, experienced in textile and automatic machine design, mill erection and millwright work. Eleven years' practical and technical experience. Address No. 1691, care Manufacturers Record, Balto., Md.

MANUFACTURING CHEMIST. Univ. Grad., 8 years' general chemical and electrochemical practice in factory, research, management, acids, alum, nitro products, caustic soda, chlorine, zinc, copper, rare metals; special processes to offer; design, installation, operation. Address No. 1689, care Manufacturers Record, Balto., Md.

AN EXPERIENCED and capable coal man in the prime of life, knows the business from A to Z, wants a position; can handle an office, sell on the road, or manage a coal works; have sold coal and coke from Omaha to Boston and know the markets and transportation; have opened up coal works and disposed of the output; married man of family; temperate habits. Address No. 1688, care Manufacturers Record, Balto., Md.

EXPERIENCED STONE MAN open for position as manager, superintendent, draughtsman or salesman; experienced in handling quarry operations, manufacturing and selling paving and crushed stone, and in figuring drawings, making diagrams and setting plans for cut stone work and superintending the getting out and erecting of same; at present employed, but desires to make change. Address No. 1683, care Manufacturers Record, Balto., Md.

EDUCATIONAL

RENSSELAER POLYTECHNIC INSTITUTE, TROY, N. Y.—Courses in Civil, Mechanical, Electrical and Chemical Engineering and General Science, leading to the degree of Civil Engineer (C.E.), Mechanical Engineer (M.E.), Electrical Engineer (E.E.), Chemical Engineer (Ch.E.), and Bachelor of Science (B.S.). Also special courses. Splendidly equipped new engineering laboratories. Send for catalogue to Registrar.

OFFICE DEVICES

FOR SALE—New and second-hand office machinery and labor-saving devices of all kinds and makes. We offer some exceptional bargains at present. Collins & Company, 1324 Arch Street, Philadelphia, Pa.

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EXCELLENT LETTERHEADS, Envelopes, Cards, Tags, 6x9 Circulars, Imitation Typewritten Letters, Statements, $1.50 per thousand. Elegant samples free. M. R. Good's Printery, Harrisonburg, Va.

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MODELS MADE FOR INVENTORS.—General machine work. Designing and perfecting. Developing automatic devices and machinery. In a position to do all kinds of light tool and machine work. Prices reasonable. Estimates cheerfully given. Ideal Machine Works, 64 Ann Street, New York City.

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NORTHCROSS WOOD MANTELS AND TILE FLOORS for every purpose. Sold direct from factory to your home. All orders receive prompt attention. Every contractor should have a copy of our new catalog showing the largest line in America. Mailed free. W. J. Northcross Mantel Company, 73 Union Ave., Memphis, Tennessee.

CAPITAL WANTED

MANUFACTURE lye, bleaching powder, spelter, copper, barium salts, cotton products, oils. Chemical engineer with experience and plans would correspond with capitalists and owners of raw materials. Address No. 1690, care Manufacturers Record.

BUSINESS OPPORTUNITIES

SPANISH YOUNG MAN, with own office downtown, can spare few hours daily to attend to any business, either foreign or domestic. Only a very small amount weekly to cover part of actual expenses. Address P. O. Box 2110, New York City.

PERSONAL.—Will the Baltimore business man who answered advertisement Stone, Box 812, Roanoke, Va., please send his name and address to same advertiser, as his former letter has been misplaced and owner of property desires to communicate with him. Stone, Box 812, Roanoke, Va.

I HAVE an unusually good land-development proposition to offer a responsible party who can supply $10,000 for working fund. Chas. B. Harman, Gainesville, Fla.

WANTED—To correspond with reliable party who wants to start knitting mill; free building, boiler, engine, light. No tax to right party. Box 16, Kernersville, N. C.

STATE AGENTS WANTED.—Exclusive control. Adjustable form units for all kinds of concrete work; 2000% cheaper than other makes. Frick Manufacturing Co., Fricks, Pa.

TO BUY ENGINEERING BUSINESS.—C. E. of ten years' experience will buy engineering business or a working interest therein. Your proposition will be kept confidential. Address No. 1686, care Manufacturers Record, Balto., Md.

FOR SALE—Water and light plant in growing town of 3000 in Southwest Ala.; will also consider selling ice plant in connection with water and light plant. Best of reasons for selling. For particulars apply to E. P. Kimbrough, Greensboro, Ala.

I WANT to make connection with party who owns or can finance establishment of manufacturing plant in the South along the lines of contractors' equipment, as hoists, derricks, excavators and dredges, etc. Have no capital, but will bring along the brains and experience. Now connected with leading house of America in executive engineering position. Know the possibilities of the business. Address No. 1687, care Manufacturers Record.

WE OFFER FOR SALE our building and repair material for buggies, carts, wagons and all other farm machinery, together with good set of tools. Fine territory and good-paying business. Agency for machinery that pays good profit. Also shop building. Owner has no time to give it is reason for change. Martin County Buggy Co., care of W. C. Manning, Williamston, N. C.

WANTED—Acreage, farm, city or town property, suitable for subdivision into small farms or lots. Land brings more when cut up and handled by our up-to-date methods. We are fully equipped to subdivide and sell real estate at auction on commission in all parts of the United States. We turn real estate, residence lots or farms into cash quickly. We are also in position to negotiate exchanges of Washington city investment properties for farm, timber or residence property anywhere in the United States. Write us. Our representative will inspect your property. National Real Estate and Auction Company, 1024 Woodward Building, Washington, D. C.

WE ARE CONSULTING ENGINEERS backed by a competent staff and a modern machine plant that can save you money if you are interested in designing or building special machinery, special tools, experimental work, models, etc. If you have patented an article which is not perfected, a consultation with our expert mechanician is at your command. We are giving attention to developing patents and marketing patented articles, especially labor-saving appliances. Our list of office appliances is available. We invite correspondence and will give estimates promptly and cheerfully. Specialty Manufacturing-Sales Corp., Norfolk, Va.

FOR SALE—One of the finest mineral springs properties in mountains of Virginia; tract contains 250 acres. Big demand for hotel. H. M. Lewis, Staunton, Virginia.

MANUFACTURERS of household and office specialties will please communicate with us. Texas Mail Order Supply Company, Dept. A, Wilson Building, Dallas, Texas.

HOTEL FOR SALE OR LEASE

FOR SALE OR LEASE—New 20-room hotel at Seminole Beach, a summer and winter resort; modern fixtures; a chance to make money for live party. For particulars see M. E. Sparrow, 1411 Morgan St., Tampa, Fla.

FACTORY SITES

BALTIMORE FACTORY AND TERMINAL SITES.—Statement of Asa G. Candler, President The Coca-Cola Co.: "Investigation convinced us that Baltimore is not only the commercial metropolis for Southern trade, but that it affords shipping opportunities both by water and rail for domestic and foreign traffic superior to any of the great cities in any section of the United States." Locate in Baltimore and derive these advantages. We can provide accommodations to meet your requirements. Wm. Martien & Co., 3 N. Calvert St., Baltimore, Md.

INDUSTRIES WANTED

COTTON FACTORY

WANTED—COTTON FACTORY.—This city has a large building which could be converted into a splendid cotton factory. Would like to hear from parties interested. Address Business Manager, Marion Association of Commerce, Marion, Indiana.

INDUSTRIAL PLANTS FOR SALE

IRON AND WIRE WORKS

FOR SALE—Established ornamental-iron and wire works in city of 120,000 inhabitants, doing $10,000 business yearly; no opposition; reasons for selling; retiring. Quick action desired. San Antonio Wire and Iron Works, San Antonio, Tex.

FURNITURE FACTORY

FOR SALE—On easy terms, a $30,000 furniture manufacturing plant with from $20,000 to $25,000 worth of raw and manufactured materials. Has a good established business. The man or firm that understands the furniture manufacturing business can secure a bargain. If interested, address Lock Box 608, Oxford, N. C.

MACHINE SHOP

FOR SALE—A complete machine shop, located in Central Florida, healthiest place in United States, consisting of a full line of machine tools, buildings, real estate, etc., on junction of two railroads, with private siding. Price, $5000; one-third cash; balance on easy terms. Would consider a long-term lease. For full particulars write owner, M. T. Anderson, Box 91, Apopka, Fla.

MANUFACTURING PLANT

FOR SALE—In Baltimore, a plant suitable for manufacturing, cold-storage or storage warehouse, equipped 60 H. P. engine, 3 boilers, 35-ton ice machine, 17 cold-storage closets, 25,000 ft. floor space, Penna. R. R. switch. Chas. E. Ecker, 1307 Munsey Bldg., Balto., Md.

LAUNDRY

LEESBURG, FLA., Hand Laundry for sale; good town, good trade, good equipment and good reason for selling; only laundry in 25 miles. Geo. H. Young, Leesburg, Florida.

MISCELLANEOUS

FOR SALE—A complete brick plant in good condition with capacity of 20,000 brick per day.
1 short log sawmill.
1 25-bbl. flour mill in brick building.
1 75-bu. corn mill in brick building.
1 corn and cob crusher.
The Flour Mill is kept going practically the year round. Price $10,000, $4000 cash, balance in three equal annual installments. Address Central Realty Co., Richmond, Va.

MINERAL AND TIMBER LANDS, WATER POWERS AND MISCELLANEOUS PROPERTIES

$2.75 AN ACRE—TIMBER AND GRAZING LANDS.—Forty-eight hundred, sixty-six hundred forty, and twenty-five hundred acres in Southeastern Oklahoma; near oil pipe lines; good oil and mineral prospects; Government title. Some cash; some terms; no trades. M. E. Williams, McAlester, Oklahoma. Established fifteen years. Reference, any bank.

FOR SALE—Dividend-paying orange, grapefruit and pineapple groves, high-class town lots, town and river-front modern residences, stock farms, colonization tracts. Price $3, $3.50, $5.50, $6, $10 and $20 per acre. Pine, cypress, oak, gum and poplar timber tracts and timber leases and coal tracts. Write us your wants. Waters Realty Co., Walton, St. Lucie County, Florida.

FOR SALE—1500 Southern farms, suburban homes and timber tracts. Write for free catalogue describing same. Unprecedented opportunities. Johnson's American and Foreign Real Estate Exchange, 926 Pennsylvania Ave., Washington, D. C.

WILL EXCHANGE for farm, timber, coal or large acreage the following properties:
Large apartment downtown section, rented at $25,950 per annum. Subject to 30% incumbrance, showing a net income of $14,025. Clear of all expenses. Price $300,000.
Also three-story steel-constructed apartment. Subject to 33⅓% incumbrance, showing an annual income of $5376. Price $60,000.
Three large apartments in Boston, Mass., one showing a gross income of $22,176 and a net income of $11,100. Price $222,000. And one rented at $11,000 per annum and showing a net income of $3890. Price $112,000. Also another apartment showing an income of $10,200 per annum and a net income of $4561. Price $105,000. Can trade the last three properties in one deal or separate.
I have all kinds of real estate for sale or exchange everywhere. Wanted all kinds of real estate for sale or exchange.
Arthur M. Connor, 223-24 Oxford Bldg., Washington, D. C.

COUNTRY ESTATE

36 ACRES.—Country estate, 4 miles from Baltimore city, boulevard roads; handsome new mansion, tenant-house and barns. W. B. Ferguson, 217 St. Paul St., Baltimore, Md.

GRANITE QUARRY

FOR SALE—Developed North Carolina gray granite quarry; also, complete quarrying and cutting plant. A bargain a/c estate. Address No. 1672, care Manufacturers Record.

TIMBER FOR SALE

FOR SALE—40,000,000 feet of good timber, with sawmill and complete outfit; very low freight rates to Gulf ports; very cheap and on easy terms. James A. Terry, Mobile, Ala.

Classified Opportunities

FOR SALE—Hardwood timber on 5000 acres of mountain land immediately on railroad; principally oak, chestnut, hemlock and poplar; pay for as cut and sold. Address North Carolina Talc & Mining Co., Hewitts, N. C.

REAL TIMBER BARGAIN.—50,000,000 ft. 70% N. C. pine, poplar and cypress, all original growth; on Southern R. R. in South Carolina. Liberal terms and low price. J. P. Mulherin (owner), Augusta, Ga.

NURSERY STOCK

$10,000 WORTH OF NURSERY STOCK GIVEN AWAY.—To introduce our high-grade, true-to-name, sure-to-bear, easy-to-sell fruit trees, we are offering for sale 1000 shares of stock of $10 each, and with each share of stock we give a bond good for $10 in nursery stock. Applicants must be white, reliable, and owners of real estate. Write today. Wills Valley Nursery Company, 902-3-4 Jefferson Co. Bank Bldg., Birmingham, Ala.

TRUCK SEEDS

THOUSANDS OF POUNDS CHEAPEST HIGH-GRADE SEED.—Cucumber, any variety, 44c. lb.; Eden, Burrell's Gem cantaloupe, 44c.; watermelon, 40c.; Rattlesnake, 35c.; Kolb Gem, 29c.; ¼ lb., 14c.; tomato, any variety, $1.35; ¼ lb., 40c.; okra, 25c.; ¼ lb., 9c.; postage paid ¼ lbs. War corn, very prolific, only weevil-proof variety, $1 peck; bushel, $3. Big money trucking; three crops year same land. Directions cultivating, marketing, given receipt 4 cents stamps. Upland long staple cotton selling 14 cents. Write price prolific seed. L. A. Stoney, Allendale, S. C.

FRUIT, FARM AND TRUCK LANDS

ALABAMA

SATSUMA AND PECAN LANDS.—Satsuma orange groves from 3 to 5 years or orange lands. Every tract is all soil. Any acreage desired and terms to suit. Jas. A. Lewis & Son, 52 St. Francis St., Mobile, Ala.

GOOD INVESTMENT.—We offer for sale 13,000 acres of best farm, fruit and stock-raising land in solid body, situated only a short distance from Bay Minette in Baldwin county, Alabama.

This land lies well, being level to slightly rolling, with several streams of running water through the tract, making it very desirable for colonization purposes.

This tract can be purchased for the low price of $7 per acre. Will arrange terms. T. L. Moore & Co., Room 109 Masonic Temple, Mobile, Alabama.

FLORIDA

PINEY POINT, the Deep-Water City. Other towns and would-be towns have to fight and wait for appropriations to get deep-water facilities.

Nature made it for us, and in addition gave us immunity from frost, for just north of Piney Point is the broad expanse of Tampa Bay.

Teraceia Island and the Manatee River towns and farms have good water protection, but not deep water. We have both.

Also an abundant supply of artesian water for all purposes.

Nature laid the foundation. We are doing the rest. Will you join us? The Piney Point Land & Improvement Co., Palmetto and Piney Point, Fla. Jno. W. Jackson, Manager.

FREE—William L. Larkin's booklet, "The Truth About Florida," with a six-months' subscription (at one-half regular rates) to The Indian River Farmer. Fruit growers, truckers, general farmers, folks interested in Florida, send 25c. to The Indian River Farmer, V-1, Vero, Fla.

FARM LANDS IN THE RICH LAKE BUTLER SECTION.—80 acres, 20 in cultivation, $750; 78 acres, 30 in cultivation, $1000; 80 acres, lake front, ideal location for winter home, $800; 84 acres, two and a half miles out, $840; 80 acres, two miles out, $1000; 20 acres, improvements worth the money, $1600; 120 acres, three miles out, $1700; 187 acres, one and a half miles out, $3553; 148 acres, $1000 worth of cattle, sugar mill and farming implements, all for $8000. Address William Johnson, Lake Butler, Fla.

I OFFER FOR SALE for sixty days some of the finest fruit and farm lands in Polk county, situated near the city of Lakeland, the best town in the best county in the State of Florida, in tracts of 5000 to 18,000 acres. For quick sale will sell at much less than actual value. It is on railroad. Geo. C. Barton, Lakeland, Fla.

FOR SALE—COLONIZATION TRACT in Manatee county; 5000 acres in solid body, only 4¾ miles from the growing city of Sarasota, two miles from Fruitville; exceptional opportunity for investment or development; ideal for cattle, hog or sheep ranch, or could be cut up and sold at immense profit; price only $12.50 per acre; favorable terms. Write, wire or call on J. H. Lord, owner, Sarasota, Fla.

THE PALATKA FARMS COMPANY of Palatka, Florida, offers to homeseekers the very superior advantages of splendid soil, adapted to potatoes, corn and trucking, or that for oranges and grapefruit, or for combination of both, with location unsurpassed, lying along the beautiful St. Johns River, 2 miles of Palatka, an up-to-date city of 8000 population. It boasts of electric-light and gas plants, four railroads and cheap river transportation. Write for literature. P. J. Becks, Palatka, Fla.

10 AND 20-ACRE FARMS in citrus and trucking centers in the highlands along Apopka River, So. Central Fla.; $12 per acre cash, $1 per acre per month; no taxes or interest. Will also improve land and send free literature on request. Adjoining groves valued more than $1000 per acre. P. O. Box 486, Arcadia, Fla.

FLORIDA SUBURBAN HOME with 20 acres of good land, 20 in orange and grapefruit trees, with 15 acres bearing. One-half mile from the Gulf, 10 minutes' walk from business center of growing town of Dunedin, on the Tampa rock road. Price $20,000; terms. B. C. Bass, Dunedin, Florida.

FOR SALE—50,000 acres in St. Lucie county, Florida; 20,000 acres in Manatee county; 30,000 acres in Lake county; 6240 acres in Polk county, all well located; excellent colonization tracts. Address P. F. Quinn, Vinton, Iowa.

FOR SALE—2½-acre suburban Tampa farms, close to the most progressive city in the South, $500. Only $5 cash. Descriptive illustrated booklet free. Gray-Ball Realty Co., Tampa, Fla.

FOR SALE—From 10 to 10,000 acres choice DeSoto county, Florida, cut-over pine lands. Soil suitable for citrus fruits or vegetables. Close to railroads. Particulars on request. Address Owners, P. O. Box 5, Limestone, Fla.

LOUISIANA

FOR SALE—3220-acre plantation, 1600 acres in cultivation; 45 mules, implements and tools; two 5-room residences; in Madison parish, La., 30 miles west of Vicksburg, Miss.; V. S. & P. R. R. runs through plantation; depot in center; large acreage seeded in oats; ideal for grain, cattle, stock or cotton farm. J. A. Mann, Greenville, Miss.

FOR SALE—A sugar plantation containing 1250 acres, 800 of which are in cultivation of cane and corn. Have 40 head of mules, implements, etc. Land contains large homes for owners, cabins, stables, barns, and everything complete for operation of one of the finest pieces of land in Louisiana. Railroad through property. For particulars relative to price and terms address No. 1679, care Manufacturers Record, Balto., Md.

MISSISISPPI

IS HE CRAZY? The owner of a plantation in Mississippi is giving away a few five-acre tracts. The only condition is that figs be planted. The owner wants enough figs raised to supply a canning factory. You can secure five acres and an interest in the factory by writing Eubank Farms Company, 500 Keystone, Pittsburgh, Pa. They will plant and care for your trees for $6 per month. Your profit should be $1000 per year. Some think this man is crazy for giving away such valuable land, but there may be method in his madness.

NORTH CAROLINA

FOR SALE—On Slocumbs Creek, my beautifully situated home, with 550 acres of land. An ideal place for a Northern hunting club. Come and see what there is in Eastern North Carolina. William Buys, Havelock, N. C.

FOR SALE—35 acres or more, 5 miles from city of Hickory; good seven-room dwelling; large barn, and plenty of running water; good orchard. P. L. Cloninger, R. F. D. No. 2, Hickory, N. C.

TEXAS

OWN A SMALL-FARM HOME in the Gulf country, suburban to Houston, Texas, the coming great city of the South. Small cash payment gives possession; small monthly payments pay it out. No interest. No taxes. Big return for those who buy now. Write for free illustrated folder. C. W. Hahl Co., Inc., 504 Com'l Bank Bldg., Houston, Tex.

VIRGINIA

THE best agricultural and stock farm of 2700 acres in Eastern Virginia, on navigable tidewater, including 1700 acres of fine timber; brick barns, etc. Green & Redd, Richmond, Va.

VIRGINIA ESTATES.—Colonial homes, plantations, farms, suburban homes, Albemarle pippen orchards, timber lands. Write us for what you want. We have it. R. N. Flanagan & Co., Charlottesville, Va.

VIRGINIA FARMS.—Fine blue grass, grain and dairy farms in the heart of the Piedmont section of Virginia, Culpeper, Fauquier and adjoining counties. Ask for catalogue. The L. M. Allison Co., Real Estate Brokers, Remington, Va. Established 1895.

MACHINERY AND SUPPLIES WANTED

WANTED—One two-drum steam hoister, not less than 8x10 engine. Give full description and best cash price. Tampa Sand & Shell Co., Tampa, Fla.

FINANCIAL

AN UNUSUAL OPPORTUNITY to secure an interest in a splendidly equipped operation in the Pocahontas field, working the original No. 3 seam, 5 feet thick. The management is in the hands of the wealthiest and most successful operators in the field. Over $400,000 has been spent on the improvements, and the works have never lost a day for want of orders. The large stockholders and directors represent a tonnage of several millions annually and a wealth of many millions of dollars.

Particulars as to the directors and stockholders will be furnished to bona-fide interested parties.

The unusual conditions prevailing for the past year compels the owner (a non-resident) to sacrifice the stock, which will be sold for $50 per share, par value $100, and it cost that. Terms easy; $10 per share down and $10 per share per month. Certificates in one-share lots or any number. Brokers protected. Address No. 1684, care Manufacturers Record, Balto., Md.

PATENT ATTORNEYS

EUGENE C. BROWN, ENGINEER AND PATENT LAWYER, Suite 40 Victor Building, Washington, D. C. Member Bar U. S. Supreme Court. Patents and Trademarks. Inventions are considered both from Engineering and Legal standpoints in my prosecution of patents. An experience of over 9 years as Examiner in U. S. Patent Office and over 6 years as Patent Expert in important patent suits are my especial qualifications. Reports upon validity and infringement. Send sketch of invention for advice.

VALUABLE INVENTIONS justify only best legal service. Consult Vernon E. Hodges, Attorney-at-Law, Barrister Bldg., Washington, D. C. Practice before the U. S. Supreme Court; all Circuit Courts; Courts of the District of Columbia, and the U. S. and Foreign Patent Offices exclusively. Continuous practice since 1886. Extensive experience with all classes of invention, representing lawyers, manufacturers and inventors in every State.

C. L. PARKER, Patent Lawyer, formerly member Examining Corps U. S. Patent Office, 924 G St., Washington, D. C. Patents secured. Patent suits conducted. Reports on the patentability of inventions, the scope and validity of patents, and whether any process or machine infringes existing patents. Reference to prominent manufacturers and pamphlet of instructions furnished upon request.

PATENT YOUR IDEAS.—$9000 offered for certain inventions; book, "How to Obtain a Patent" and "What to Invent," sent free upon request; send rough sketch for free report as to patentability. We advertise your patent for sale at our expense. Chandlee & Chandlee, patent attorneys, 978 F St., Washington, D. C.

PATENTS secured or Fee returned. Send sketch for free report as to patentability. Guide book and what to invent, with valuable list of inventions wanted, sent free; $1,000,000 offered for inventions. Patents secured by us advertised free in World's Progress; sample free. Victor J. Evans & Co., 12 Ninth St., Washington, D. C.

PATENTS THAT PROTECT AND PAY. Advice and books free. Highest references. Best results. Promptness assured. Send sketch or model for free search of Patent Office records. Trade-marks registered. Watson E. Coleman, Patent Lawyer, 624 F St., Washington, D. C.

PATENTS.—Herbert Jenner, patent atty. and mechanical expert, 606 F St., Washington, D. C. I report free of charge if a patent can be had and its exact cost. Send for circular.

PROPOSALS

BOND ISSUES BUILDINGS PAVING GOOD ROADS

GOVERNMENT PROPOSALS

PROPOSALS FOR THE PURCHASE OF Suction Dredge "Caribbean," offered for sale by The Panama Canal and which is no longer needed. Sealed proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10.30 A. M. March 26, 1915, at which time they will be opened in public, for purchasing the above-mentioned dredge. Blanks and general information relating to this Circular (No. 899) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City; 614 Whitney-Central Building, New Orleans, La., and 1086 North Point Street, San Francisco, Cal.; also from the U. S. Engineer Offices in the following cities: Seattle, Wash.; Los Angeles, Cal.; Baltimore, Md.; Philadelphia, Pa.; Pittsburgh, Pa.; Boston, Mass.; Buffalo, N. Y.; Cleveland, Ohio; Cincinnati, Ohio; Chicago, Ill.; St. Louis, Mo.; Detroit, Mich.; Milwaukee, Wis.; St. Paul, Minn.; Chattanooga, Tenn.; Louisville, Ky.; Mobile, Ala., and Galveston, Tex.; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill., and Commercial Club, Tacoma, Wash. F. C. BOGGS, Major, Corps of Engineers, U. S. A., General Purchasing Officer.

FORT MYER, VIRGINIA, January 14, 1915. Sealed proposals in triplicate for construction of a Quartermaster Corps Barrack and a three-set Non-commissioned Officers' Quarters at Fort Myer, Va., will be received here until 11 A. M. February 11, 1915, and then opened. Information furnished on application. Envelopes containing proposals should be indorsed "Proposals for Construction of Buildings" and addressed Quartermaster.

U. S. ENGINEER OFFICE, Trust Company Building, Postoffice and Tremont Sts., Galveston, Texas, January 25, 1915. Sealed proposals for construction of motor dredge tender La Porte will be received at this office until 12 o'clock noon February 23, 1915, and then publicly opened. Information on application. C. S. RICHE, Lt. Col., Engineers.

BOND OFFERINGS

Notice of Bond Sale

Sealed bids will be received by the Board of Supervisors of Pinellas Park Drainage District, at the offices of the Board, in Pinellas Park, Florida, until noon of Thursday, the 4th day of February, A. D. 1915, for the purchase of the bonds of said Drainage District, aggregating $108,000, running from ten to thirty years, according to the different series.

Fuller particulars given on inquiry. Address all inquiries, bids, etc., to P. J. McDevitt, Secretary, Pinellas Park, Florida.

Notice of Sale of Special Road and Bridge District No. 5 Bonds

Notice is hereby given that the Board of County Commissioners of the County of DeSoto, Florida, will receive sealed bids at the office of the Clerk of the Circuit Court, Arcadia, Florida, until 2 o'clock P. M. on the 2d day of February, A. D. 1915, for the purchase of bonds of Special Road and Bridge District No. 5, authorized and issued by the said Board of County Commissioners for the said Special Road and Bridge District No. 5 in the sum of three hundred and fifty thousand dollars.

The entire bond issue of three hundred and fifty thousand dollars, coupon form, is hereby offered for sale; the same are issued in denominations of five hundred dollars each, bearing date of the first day of October, A. D. 1914, maturing thirty years after date, bearing coupon form interest at the rate of 6 per cent. per annum, interest payable semi-annually, and interest and principal payable at Arcadia, DeSoto County, Florida.

The said Board of County Commissioners reserves the right to sell the whole or any part of the said bond issue and also to reject any and all bids.

Each bidder is required to furnish certified check for 2 per cent. of his bid as evidence of good faith. The said checks of unsuccessful bidders will be returned and the checks of the successful bidder will be forfeited in case he fails to comply with his bid. Each bidder will state the time when he will comply with his bid by paying money or other evidences thereof.

(Seal.) A. L. DURRANCE,
Clerk of Circuit Court.

[CONTINUED ON NEXT PAGE.]

PROPOSALS

SEWERS WATER-WORKS ELECTRIC LIGHT PLANTS BRIDGES

BOND OFFERINGS

Montgomery County, Va. Bond Issue

Christiansburg, Va.

Bids will be received until noon February 23, 1915, for $35,000 worth of Montgomery County Bonds for the improvement of roads in Blacksburg District. Bonds will be in denomination of $500 each, bearing 4 per cent. interest, payable semi-annually, and to mature 30 years after date, with option to redeem after 20 years, and will be exempt from taxation by any County District or Municipality in Virginia.

The Board of Supervisors reserve the right to reject any or all bids. For further information apply to the undersigned or R. I. Roop, Commonwealth's Attorney.

GEO. W. WILSON, Clerk,
Board of Supervisors,
Montgomery County, Va.

$400,000 City of Dallas 4½% Gold Coupon Public School Improvement Bonds

TO BE SOLD FRIDAY, FEBRUARY 26, 1915.

Sealed bids will be received by the City of Dallas, Texas, until twelve o'clock noon Friday, February 26, for $400,000 4½ per cent. Gold Coupon Bonds.

The bonds are issued by the City of Dallas, Dallas County, Texas, under authority of Article 619 of the General Laws of the State of Texas, and of the Charter of the City of Dallas, and by special authority of the vote of the people of the City of Dallas at an election held Tuesday, April 7, 1914. The bonds are authorized for the purchase of grounds and the erection of school buildings thereon in the City of Dallas. They are in denominations of $1000 each. Interest is payable semi-annually on May 1 and November 1, both principal and semi-annual interest payable in gold coin at the Chase National Bank in the City of New York.

The bonds are dated November 1, 1914, and are payable as follows: $10,000 on November 1, 1928, and $15,000 on November 1 each year thereafter up to and including November 1, 1954—average time, 27 years.

Direct tax levies have been made in sufficient amounts to provide interest and the required sinking funds to retire the bonds as they mature.

The bonds are engraved under the supervision of and certified as to genuineness by the Dallas Trust and Savings Bank of Dallas. They have been approved by the Attorney-General of the State, registered by the State Comptroller, and the opinion of Messrs. Dillon, Thomson & Clay of New York, relative to the validity of the bonds, will be furnished to the purchaser.

The City of Dallas has been incorporated by special Charter for a period of more than thirty years, and at no time in its history has there been any default in the payment of any interest or principal on its bonded debt or otherwise.

The Attorney-General of the State of New York has approved City of Dallas bonds as legal investments for the savings banks of the State of New York.

A certified check for 2 per cent. of the face value of the bonds bid for, payable to W. T. Henderson, Commissioner of Finance and Revenue, must accompany each bid. Money to be paid and bonds to be delivered at Dallas. The City of Dallas reserves the right to reject any or all bids.

For further information and financial statements address

W. T. HENDERSON,
Commissioner of Finance and Revenue, Dallas.

BRIDGES

For the Construction of Seven Bridges

NOTICE TO CONTRACTORS.

Elkins, W. Va.

The County Court of Randolph County, West Virginia, will receive sealed bids on March 1, 1915, until 2 o'clock P. M., for the construction of the following bridges, to wit:

Stone Gutter Bridge—On the S. & P. Turnpike. Dimensions—Length clear span 25 feet, clearance under bridge 8 feet, clear roadway of 18 feet, skew 50 degrees, wing walls 8 feet long.

Kings Run Bridge—On Beverly and Fairmont Turnpike. Dimensions—Length clear span 45 feet, clearance under bridge 5.5 feet, clear roadway of 18 feet, skew 60 degrees, wing walls 10 feet long.

Isner's Run Bridge—Beverly and Fairmont Turnpike. Dimensions—Length clear span 40 feet, clearance under bridge 7 feet, clear roadway 18 feet, wing walls 12 feet long.

Mill Creek Bridge—Huttonsville, Helvetia and Pickens Pike, at Rosencrance's Mill, near the town of Mill Creek. Dimensions—Length clear span 70 feet, clearance under bridge 8.5 feet, clear roadway of 14 feet, wing walls on the upper side 15 feet long, wing walls on the lower side 8 feet long.

Stone House Bridge—Across Cheat River. Dimensions—Length clear span 170 feet, clearance under bridge 17 feet, clear roadway 14 feet, wing walls on east side 15 feet long, wing walls on west side 12 feet long.

Bridge Over Run Near Arthur Crouch's—On the Staunton and Parkersburg Pike. Dimensions—Length clear span 20 ft, clearance under bridge 5 feet, clear roadway of 18 feet, wing walls 8 feet long.

Stalnaker Run Bridge on Leading Creek Pike—Dimensions—Length clear span 20 feet, clearance under bridge 7 feet, clear roadway of 18 feet, wing walls 7 feet long.

All these bridges are to be constructed of concrete except the Stone House Bridge, on Cheat River, which will be constructed of concrete or steel.

By order of the Court.
THADDEUS PRITT, Clerk.

PROPOSAL ADVERTISING INFORMATION

RATE: 20 cents per line per insertion.
PUBLICATION DAY: Thursday.
FORMS CLOSE 9 A. M. Wednesday. Copy received later cannot be published until issue of following week.
NIGHT LETTER: When too late to send copy by mail to reach us by 9 A. M. Wednesday, forward by night letter.

THE DAILY BULLETIN OF THE MANUFACTURERS RECORD:

Published every business day; gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened, or when daily publications are necessary to meet legal requirements.

The same rate applies—20 cents per line per insertion.

Bridge Letting

Plans, specifications and proposals will be received at "Jones Low Bridge" on February 19, 1915, at 12 o'clock M., for the erection of a steel bridge at said point, over Meherrin River. This bridge is located about two miles south of Lawrenceville, Brunswick county, Virginia.

BOARD OF SUPERVISORS.
By W. T. Sledge, Clerk.
Lawrenceville, Va.

MISCELLANEOUS

Paving

OFFICE OF THE PAVING COMMISSION.
Baltimore, Maryland.

Separate sealed proposals, executed in duplicate, addressed to the Board of Awards, care of the City Register, will be received by him at his office in the City Hall until 11 A. M. Wednesday, February 3, 1915, to grade, curb and pave with Sheet Asphalt, Vitrified and Granite Block, all on a concrete base, the streets listed in the following contracts:

Vitrified Block Paving Contract No. 106.

	From	To
Nursery Lane	Biddle St.	Preston St.
Sapp St.	Madison St.	Ashland Ave.
Spring St.	Lexington St.	Orleans St.
Spring St.	Jefferson St.	McElderry St.
Dallas St.	Fayette St.	Orleans St.
Dallas St.	McElderry St.	Monument St.
Dallas St.	Madison St.	Ashland Ave.

Vitrified Block.....4700 sq. yds.
Certified Check.....$300

Sheet Asphalt Paving and Granite Block Repaving No. 107.

	From	To
Baltimore St.	Front St.	Broadway.

Sheet Asphalt.....7700 sq. yds.
Granite Block.....6470 sq. yds.
Vitrified Block..... 700 sq. yds.
Certified Check.....$900

Granite Block Paving No. 108.

	From	To
Lombard St.	Paca St.	Hopkins Place.

Granite Block Repaving...1400 sq. yds.
Granite Block.....4200 sq. yds.
Certified Check.....$500

Sheet Asphalt, Vitrified Block and Granite Block Paving Contract No. 109.

	From	To
Patterson Park Ave.	Essex St.	Pratt St.
Eastern Ave.	Broadway	Patterson Park Ave.
Eastern Ave.	Ellwood Ave.	Eastern City Limits.

Eastern Ave. and Lakewood Ave.
Eastern Ave. and Linwood Ave.
Sheet Asphalt.....14,500 sq. yds.
Vitrified Block..... 5,850 sq. yds.
Granite Block..... 3,320 sq. yds.
Certified Check.....$1,500

The figures above represent the approximate quantities of the principal items appearing in the contract.

Specifications and proposal sheets can be obtained upon application to the office of the Paving Commission, City Hall. A deposit of $5 will be required for a specification covering each contract. This will not be refunded unless a bid is filed.

Plans and profiles are on file for the information of bidders in the office of the Consulting Engineer.

The Board of Awards reserves the right to reject any and all bids. A certified check of the bidder on a Clearing-house bank, drawn to the order of the Mayor and City Council of Baltimore to the amount as recited above, must accompany each bid.

The successful bidder will be required to furnish bond and to comply with the City Charter respecting contracts.

By order of the Paving Commission.
. KEITH COMPTRON,
Chairman and Consulting Engineer.
J. MYERS HEDIAN,
Secretary.

Approved:
JOHN HUBERT,
Acting Pres. Board of Awards.

Gasoline Fire Engine

NOTICE TO BIDDERS.

Bay St. Louis, Miss.

Sealed bids will be received by the Board of Mayor and Aldermen of the City of Bay St. Louis, Miss., until 5 P. M. February 6, 1915, for one gasoline fire engine, about 50 H. P. motor, fitted for hand and horse draft, giving terms of sale. The Board reserves the right to reject any and all bids.

By order of the Board.
R. F. O'BRIEN, Secy.
Bay St. Louis, Miss., January 21, 1915.

Concrete Reservoir

Tampa, Fla.

Sealed proposals will be received until twelve o'clock noon February 15, 1915, at the office of the Tampa Water-works Company, Tampa, Florida, addressed to Chester R. McFarland, General Manager, for a reinforced concrete reservoir about 206 feet long by about 125 feet wide by about 20 feet deep, in accordance with plans and specifications to be furnished by the said company. A deposit of twenty-five dollars will be required for a copy of the above-mentioned plans and specifications. Each bid must be accompanied by a certified check for twenty-five hundred dollars ($2500) on a national bank of Tampa, Fla., or Philadelphia, Pa., and made payable to the order of the Tampa Water-Works Co. The successful bidder will be required to file with the Tampa Water-works Company, to insure the faithful performance of the contract, a surety bond acceptable to the Water-works Company for fifty per cent. of the contract price. The Tampa Water-works Co. reserves the right to reject any or all bids.

Gas Franchise

Lake Charles, Louisiana, is offering a most liberal gas franchise, and the City Clerk will receive sealed bids up to 10 o'clock A. M. February 25, 1915.

ANDREW COOK, City Clerk,
Lake Charles, La.

Clothing, Shoes, Cots, Etc.

Sealed bids will be received and opened by Board of County Commissioners of St. Lucie County, Fla., at 2 P. M. February 2, 1915, for furnishing clothing, shoes, cots, etc., for county convicts.

J. E. FULTZ,
County Clerk,
Fort Pierce, Fla.

Fire Apparatus

New Bern, N. C., Jan. 14, 1915.

Sealed bids will be received by City of New Bern up to eight o'clock P. M. Monday, February 1, 1915, for furnishing one triple combination motor car for Fire Department. Capacity not less than eight hundred gallons per minute. Right reserved to reject any or all bids.

F. T. PATTERSON,
City Clerk.

Hospital Building

NOTICE TO CONTRACTORS.

Notice is hereby given that the Board of Directors of the Emergency Hospital will, until noon on the 20th day of February, 1915, receive at their office in Easton, Maryland, sealed bids for the furnishing of all materials and labor necessary to erect and complete a three-story brick Hospital about 100 feet long and 40 feet wide.

Plans and specifications can be seen at the present Hospital in Easton, or can be obtained of the Architects, Guy King & Co., 1513 Walnut St., Philadelphia, Pa., for the usual fee.

All bids must be accompanied by a certified check for five per centum of the contract price, which checks will be returned to the unsuccessful bidders.

The successful bidder will be required to furnish a bond to cover the amount of the contract.

The Board of Directors reserve the right to reject any and all bids or to accept any bid irrespective of price which seems to them most advantageous.

Address
HAMPTON HOWELL, Secretary,
Easton, Talbot County,
Maryland.

A Southern Opportunity

A MACHINE DESTINED TO MARK AN EPOCH in office appliance history has been perfected and is being placed on the market. This machine has passed the experimental stage. It has been in practical use for over a year and has demonstrated its adaptability to almost every line of business.

Its amazing qualities have aroused the deepest interest wherever shown, the unanimous forecast by office appliance experts who have seen this new device being that it will create new standards in office efficiency and economy. A large number of business concerns are only awaiting the building of the machine in quantities to place orders. It has no competition, as there is no other machine on the market which embodies its numerous functions. Its range of usefulness is extremely broad—every business of any size can reduce expenses and increase efficiency by installing it.

Active Headquarters Have Been Established in a Large and Prosperous Southern City

The organization behind the machine is conservative. The men themselves have had long experience in the office appliance field. They understand not only the machine and its application to business, but also are thorough masters of the manufacturing and sales problems involved. **And they are also backing their judgment by subscriptions to the capital stock.** The foundations for an unusual success have been built. What is needed at the present time to insure an immediate development of the opportunities at hand is an increase in capital.

We are offering this opportunity to readers of the Manufacturers Record, because these readers have been close students of business; they are well acquainted with the tremendous successes gained in the business equipment field. Only a brief glance through the advertising pages of this magazine is needed to demonstrate the existence of these well-known successes. Readers of the Manufacturers Record are also aware of the fact that constant progress is being made in the business equipment field—that new machines which reduce cost and increase efficiency are readily accepted by the American business man.

Unbelievable profits have been distributed by office appliance manufacturers, all of which are located north of the Mason-Dixon line. OURS IS THE ONLY PROPOSITION OF ITS KIND IN THE ENTIRE SOUTH.

So it is we make this announcement in the Manufacturers Record. All those who are interested can obtain full particulars covering this situation conservatively and explicitly by signing and mailing the coupon. Only a limited amount of capital is to be raised, and those writing first will receive first consideration.

This is an opportunity for men of means and others. Address Box 5000, Care Manufacturers Record.

COUPON

Box 5000, Manufacturers Record,
Baltimore, Md.

I want to investigate your proposition. Please send details.

Name .....

Business .....

Street .....

City .....

State .....

INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

Piping and Equipment Contract Awarded.

Contract for piping and electrical and steam equipment, amounting to $8000, to be used in the Coca-Cola industrial building's addition now under construction at Pratt and Concord Sts., Baltimore, for the Coca-Cola Company of Atlanta, has been awarded to Crook, Kries & Co., machinists and contractors, 28 Light St., Baltimore.

Activity at Bourbon Copper & Brass Works.

Through its president, Thomas Ford, the Bourbon Copper & Brass Works Co. of Cincinnati, O., has secured the contract for supplies for the city of New Boston, O., a municipality adjacent to Portsmouth. The material comprises 96 valves of various sizes, an equal number of valve boxes and 44 fire hydrants. Many orders have been received by the Bourbon Company recently, and the expectation is that within two weeks its plant will be running full time.

Cogswell-Koether Company, Inc.

Announcement is made that the Cogswell-Koether Company has been organized and incorporated with Corbin C. Cogswell, president, and George H. Koether, vice-president and treasurer, to operate as building contractors. The offices of the new company are located at 406 Park Ave., Baltimore. Messrs. Cogswell and Koether have been identified with building construction for more than fifteen years and are well known through their former connections, respectively, Morrow Bros. of Baltimore and Wells Bros. Company of New York.

Cotton Mill for Sale.

Twenty acres of land, partly in the corporate limits of Starkville, Miss., improved with a modern factory building of brick, two warehouses, 18 cottages, railroad switch and ample water supply, constituting the property of the John M. Stone Cotton Mills, will be sold Mch. 10, 1915, at the Courthouse in Starkville. Factory equipment includes 5360 spindles and 150 looms to make 64x64, 38½, 5.15 sheeting. For further information regarding terms of sale, etc., address A. C. Erwin, Trustee, Starkville, Miss.

New Automobile Tire Device.

A new automobile tire and rim device to use in place of pneumatic tires, which is said to be capable of traveling from 30,000 to 40,000 miles without other general wear than that of the solid rubber tire surrounding it, is being developed by J. C. Menoher, 1021 Chislett St., Pittsburgh. The device, which is fitted to an ordinary automobile wheel, consists of a special metal tire containing a magazine of spiral springs attached radially, on which rests a solid rubber tire. The tire is said to be applicable to any sort of automobile, truck or wheel which depends upon rubber tread for resiliency.

Removal of Zimmerman Steel Plant.

In order to get better shipping facilities, cheaper freight rates and better labor market, banking facilities and efficiency in a large, new, up-to-date plant to handle the great increase in sales of its stump pullers, farm scales and steel castings, the Zimmerman Steel Co. of Lone Tree, Iowa, will remove its plant to Davenport, Iowa. Ten acres of land and an option on ten more have been purchased by the company at Davenport on which large steel foundry buildings, assembling shops, offices and other buildings will be erected. At the plant in Lone Tree, which has been in operation for twenty years, 30,000 feet of floor space was required.

Steel Company Opens Warehouse in Detroit.

The Union Drawn Steel Co., which has two mills at Beaver Falls, Pa., one of the large producers of bright finished metal, has added another link to its already large chain of service warehouses by establishing a new one at Nos. 19-23 St. Aubin Ave., Detroit, Mich., under the management of Walter J. Bothwell as district sales manager. This warehouse will carry a large and complete assortment of sizes of shafting, screw steel, axle steel—both nickel and open-hearth—as well as case-hardening steels and elevator guides. For the convenience of its trade, the company has other warehouses located at New York city, Philadelphia, Chicago and Cincinnati.

Will Build New Line of Small Motors

The recently-organized Gillespie-Boynton Co., Inc., 50 Church St., New York, which has taken over the Watertown Motor Co. of Watertown, N. Y., in addition to the two-cycle marine motors formerly manufactured, will develop an improved line of small motors, gasoline and oil engines, for motor-boats and farm purposes at a new plant which will be erected at Paterson, N. J. Special "en bloc" type of two-cycle 2, 3 and 4-cylinder motors, developing 8-10, 12-15 and 16-20 horse-power, respectively, for marine uses, and gasoline-kerosene stationary farm engines will be built at this plant. Construction features of the motors are described and illustrated in catalogues issued by the company from its New York office, 50 Church street.

Vilter Company Enlarges Eastern Branch.

To increase the facilities of its Eastern branch, the Vilter Manufacturing Co. of Milwaukee, Wis., manufacturer of ice-making and refrigerating machinery, has removed its Philadelphia office and warehouse from 860 N. Franklin St. to the property located at the southwest corner of 25th and Wharton Sts. In addition to the 300x200-foot warehouse, a recently completed shop, 100x100 feet, a fitting department, 80x40 feet, for carrying small machines, and a separate office building, 30x40 feet, comprise the housing facilities of the new location. A full line of fittings, supplies and small machines, ranging from 1 to 25 tons, will be carried at the Philadelphia branch for immediate shipment.

Timber Lands, Sawmills and Railroad for Sale.

Certain real and personal property of the Kanawha Hardwood Co., consisting of about 14,000 acres of land in Graham and Cherokee counties, North Carolina, most of which is covered with hardwood timber and improved with a band-saw mill, three circular-saw mills, a log loader and other machinery, and a railroad running through the property, will be offered for sale to the highest bidder at the Courthouse in Murphy, N. C., March 1, 1915. In like manner and on the same date all the property, franchises and effects of the Snowbird Valley Railway Co., which includes the railroad running from the town of Andrews, N. C., into the timber lands of the Kanawha Hardwood Co. in Graham county, rolling stock and all other property will be sold. The terms of sale for both properties are: 10 per cent. of bids is to be paid in cash on date of sale as security for compliance with bid, one-third in cash upon confirmation of the sale by the court, and the remainder of the purchase price to be paid in one and two years. For further information address Witherspoon & Hill, Murphy, N. C.

Machinery and Foundry Companies Consolidate.

Announcement is made that the Kennedy-Stroh Corporation of Pittsburgh has been organized with W. H. Schoen, president; J. E. Kennedy, vice-president and chief engineer; J. L. Kendall of the Kendall Lumber Co. of Pittsburgh, treasurer; J. D. Hiles, secretary, and W. Y. Stroh, general manager and metallurgist. The Kennedy-Stroh Corporation, with a capitalization of approximately $2,500,000, has taken over all the rights, processes and factories of the Kennedy Manufacturing & Engineering Co. of New York, the Stroh Steel Hardening Process Co., the Lawrence Steel Casting Co. and the Best Manufacturing Co. of Pittsburgh. As a main plant, the Corporation will operate the Best factory at Oakmont, Pa.; also the old Lawrence steel plant at 32d St. and A. V. Railroad, Pittsburgh, as the Lawrence department. Extensive additions are being made to the plants which will give increased facilities for high-grade work and employment to about 2000 men. Power piping, flanges, fittings and valves which have been manufactured for thirty years by the Best Manufacturing Co.; the Kennedy line of mining, crushing, cement making and conveying machinery; the Stroh steel-hardening process, which is a method of casting two kinds of steel in one solid casting in such a manner that the hard alloy applies only to the parts which are subjected to wear, and Lawrence steel castings will be manufactured by the new corporation. Already more than $1,000,000 worth of business is stated by the Corporation to be under contract for 1915.

York Refrigerating Machinery Installations.

Recent Southern installations of refrigerating and ice-making machinery manufactured by the York Manufacturing Co. of York, Pa., have been made for the following concerns: Weber Bros., Jefferson City, Mo., one 8-ton vertical refrigerating machine and high-pressure side, complete; Arkansas Packing Co., Pine Bluff, Ark., one 50-ton vertical refrigerating machine direct connected to a Corliss engine, and condensing side, complete, also a 5-ton freezing system and 11,000 feet of 2-inch direct expansion piping for storage-rooms; Gillett Lumber & Transportation Co., Tampa, Fla., one 25-ton absorption ice-making plant, including four "Shipley" flooded double pipe ammonia condensers, 25-ton flooded freezing and distilling systems, and one 200-horse-power horizontal tubular boiler system, complete; McAllen (Texas) Creamery Co., one 4-ton vertical refrigerating machine direct connected to a slide-valve engine, and condensing side, complete, also direct expansion piping equipment; A. J. Nye, Orlando, Fla., one 20-ton vertical refrigerating machine and condensing side, complete, also 6300 feet of 1¼-inch direct expansion piping; White Provision Co., Atlanta, Ga., one 50-ton horizontal refrigerating machine direct connected to a Corliss engine, and condensing side, complete, also a 25-ton flooded freezing system and brine refrigerating system, including 8500 feet of 2-inch piping for storage-rooms, and Hammer Dry Plate Co., St. Louis, Mo., one 65-ton vertical refrigerating machine direct connected to Corliss engine, and condensing side complete, including seven "Shipley" flooded ammonia condensers, also refrigerating system and a 75-ton shell and tube brine cooler, brine tank, pump and piping.

GEORGIA TALC CO.
MANUFACTURERS OF
TALC AND SOAPSTONE POWDERS
FOUNDRY FACINGS CRAYONS AND PENCILS
Mines at CHATSWORTH, GA. Main Office: ASHEVILLE, N. C.

Reilly Improved Creosote Oil
IT PERMANENTLY WATERPROOFS
Paving Blocks preserved with the Reilly Improved Creosote Oil never "Bleed," Buckle or Blow Up. Specifications for the asking.
Republic Creosoting Company, Indianapolis, Ind.

A Few Words— to the "Live Wire" Contractor
Your equipment to a large extent controls your profits. You can add to or take from your profit when purchasing equipment. This advertisement refers to dump wagons.
If you could get wagons that would haul more loads in less time; would take less time to load and unload and would last much longer than most wagons, wouldn't it add to your profits? Such wagons are Westerns. Investigate today.


Write for Catalog
WESTERN WHEELED SCRAPER CO.
AURORA, ILLINOIS
Earth and Stone Handling Machinery

Waterman's Ideal Fountain Pen
We intend always to keep this pen the most satisfactory writing implement in the world. Made in a wide range of sizes, plain or mounted, with gold pens to suit every hand. Try them at your dealers.

L. E. Waterman Company, 173 Broadway, New York

Special Advertisements of General Interest.

NOTICE OF FORECLOSURE SALE

OF THE

Blytheville Water Co., Blytheville, Ark.

The entire water-works, plant and system of the Blytheville Water Company at Blytheville, Arkansas, and all its properties and franchises, will be sold February 5, 1915, under decree of foreclosure. The town of Blytheville has a population of about six thousand, and is one of the growing towns of the State. The plant is now in successful and paying operation. The sale will be made at Blytheville on a credit of three months, the purchaser to give bond with approved security, bearing interest at 6 per cent. from date of sale, and a lien retained on the properties for the payment of the purchase price.

F. G. PROUTT, Receiver and Special Commissioner,
Address, 374 Randolph Building, Memphis, Tenn.

Receivers' Sale of Timber Lands and Sawmills of Kanawha Hardwood Company

By virtue of a judgment of the Superior Court of Cherokee County, made and entered at the January Term, 1915, of said Superior Court, in certain consolidated actions therein pending, wherein J. L. Smathers, L. E. Bayless and C. M. Hickerson are plaintiffs, and J. Q. Barker, W. B. Haarick and J. A. Lewin, partners, trading and doing business as Kanawha Hardwood Company, et al., are defendants, the undersigned Receivers and Commissioners of the said Court will offer for sale at public auction, to the highest bidder, at the Courthouse door in Murphy, North Carolina, on Monday, March 1, 1915, certain real and personal property, consisting of about 14,000 acres of land in Graham and Cherokee counties, North Carolina, most of which is covered by hardwood timber; also a large band-saw mill, three circular-saw mills, a log loader, and other machinery, for a full description of which see "Cherokee Scout," a newspaper published in Murphy, North Carolina.

The above described property will be sold upon the following terms: One-third to be paid in cash upon the confirmation of sale by the Court, one-half of the remainder of the purchase price to be paid in one year, and the balance to be paid in two years from date of confirmation of sale, with six per cent. (6%) interest from date of confirmation. Title to be retained until purchase price is paid in full. Ten per cent. (10%) of bid to be paid in cash on day of sale as security with compliance with bid.

The above sale is to be made for the purpose of satisfying and discharging the indebtedness of the Kanawha Hardwood Company according to the priorities fixed by the aforesaid judgment in this cause.

D. WITHERSPOON,
T. J. HILL,
Receivers and Commissioners.

This the 28th day of January, 1915.

Receiver's Sale of the Snowbird Valley Railway Company's Railroad and Other Property

By virtue of a judgment of the Superior Court of Cherokee County, made and entered at the January Term, 1915, of said Superior Court, in a certain action therein pending wherein J. L. Smathers, L. E. Bayless and C. M. Hickerson, the Merchants and Manufacturers' Bank of Andrews, N. C., et al. are plaintiffs, and the Snowbird Valley Railway Company is defendant, the undersigned Commissioner of said Court will offer for sale at public auction, to the highest bidder, at the courthouse door in Murphy, North Carolina, on Monday, March 1, 1915, all the property, franchises and effects of the Snowbird Valley Railway Company, which includes the railroad running from the town of Andrews, in Cherokee county, into the timber lands of the Kanawha Hardwood Company, in Graham county, the rolling stock and all other property of the said Snowbird Valley Railway Company.

The above described property will be sold upon the following terms: One-third to be paid in cash upon the confirmation of sale by the Court; one-half of the remainder of the purchase price to be paid in one year, and the balance to be paid in two years from date of confirmation of sale, with six per cent. (6%) interest from date of confirmation.

Title to be retained until purchase price is paid in full.

Ten per cent. (10%) of bid to be paid in cash on date of sale as security for compliance with bid.

The above sale is to be made for the purpose of satisfying and discharging the indebtedness of the Snowbird Valley Railway Company, according to the priorities fixed by the aforesaid judgment in this cause.

This the 28th day of January, 1915.

J. D. MALLONEE,
Commissioner.

NOTICE OF FORECLOSURE SALE

OF THE

John M. Stone Cotton Mills

STARKVILLE, MISS.

Twenty acres of land, partly in the corporate limits and half a mile from the State Agricultural College.

Modern brick building, two warehouses with railroad switch to doors, eighteen cottages and ample water supply. Equipped with 5360 spindles and 150 looms to make 64x64, 38½, 5.15 sheeting. In good running order.

Sale on WEDNESDAY, March 10th, 1915, at Courthouse door, Starkville, Miss.

FOR FURTHER INFORMATION, ADDRESS

A. C. ERVIN, Trustee STARKVILLE, MISS.

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N&W RY. N&W RY.

Located in the heart of the Shenandoah Valley, having a capacity of ninety barrels per day. This is a modern three-story building with metal roof; feed mill in separate room; all feed bins are separate from the main mill; a good flour room attached having storage capacity of 15,000 bushels.

The corn mill consists of a feed mill, corn crusher, new mill for meal with new bolters and crack-corn bolter.

This is a water-power mill, with two eighty-horse-power wheels, all machinery practically new.

An excellent three-room office, also a dwelling-house, which is in good condition. All outbuildings are in good repair.

The main buildings are wired and lighted with electricity furnished by plant owned by Company.

For particulars write

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If interested, write at once to

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We prefer metal-working industry with us. For further information apply to

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Planing Mill, Flooring Plant and Retail Lumber Yard

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Plant equipped with latest type machinery. Only yard in a city in Tennessee of 5000 population and large surrounding territory. Sales $60,000. Town has five railroads and navigable river. Abundant supply of timber in immediate territory. Offered until Feb. 15, 1915.

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FOR SALE

A well equipped brick plant located about two and a half miles from York, Pa., along the N. C. R. W. The plant is in running order, and has good clay and shale land. Will sell the entire plant or any part of it. Consisting of a five mould press, clay crusher, mixer, elevator, screens, engine, boiler, shafting, &c. Address

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Bargains in Machinery and Supplies.

Engine Lathe and Structural Steel

WANTED

WANTED—A second-hand 12"x96" engine lathe; also second-hand structural steel suitable for a building 40'x90'.

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REFRIGERATING OUTFIT

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Four-ton Triumph Refrigerating Outfit, complete. Henry Thompson 10-gallon Ice-Cream Machine, one Emulsifyer. Cheap.

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Compound: 32 & 62x60 Allis H. C. C.—26 & 54x60 Allis H. T. C.—22 & 44x48 Monarch.—18 & 32x42 Allis.—14 & 28x36 L. & B. H. C. C.
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BOILERS

2 180 H. P. Heine, 125 lbs. pressure.
2 250 H. P. Heine, 160 lbs. pressure.
2 300 H. P. B. & W., 100 lbs. stokers.
300 H. P. Heine, 150 lbs. pressure.
3 300 H. P. Sterling, 150 lbs. pressure.
2 300 H. P. Edgemoor, 175 lbs. pressure.
345 H. P. Heine, 200 lbs. marine casing.
350 H. P. Heine, 150 lbs. pressure.
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A. C. UNITS 3 PHASE 60 CYCLES

K.W.	Make.	Volts.	Rev.	Engine.
90	G. E.	2300	120	H.P. Diesel Oil Eng.
150	We. El.	2300-225	15x21	Erie City Eng.
200	Allis	2300-150	16x36	Allis Corliss.
250	Ft.Way.	2300-225	300	H.P. B. McBeth Gas.
300	Westg.	440	3600	H.P.Westg. St. Turb.
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400	G. E.	2300-120	Mcl. & S.	Vert. C. C.
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750	G. E.	2300	K. & K.	Comp. Cor.
1000	Westg.	Any	1800	Low-press. Turb.
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2 1000	Westg.	Any	1800	H.P. Westg. St. Turb.

D. C. UNITS—250 / 125 Volts

K.W.	Make.	Volts.	Engine.
1000	We. El.	230	30 & 60x48 F. & S. V. C. C. Cor.
400	Ft.Way.	250	24x27 Buckeye R. H.
350	C. W.	250	Simple Buckeye Eng.
300	Westg.	3-Wire 19 & 32x24	Ridg'y H. C. C. Cor.
200	Westg.	3-Wire 17 & 28x20	Ridg'y H. T. C.
150	Westg.	3-Wire 13 & 25x24	Erie City T. C.
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20	Triumph	125	8x9 Chuse.

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Two 75 H. P. Three-Cylinder Belted Type; seen running. Bargain.

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All Sizes, ⅛" to 24"

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Also large assortment of Contractors' Equipment, Hoisting Engines, Boilers, Concrete Mixers, etc.; all thoroughly overhauled.

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Suitable for All Practical Purposes
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No. XB-16. 4½x6" American D. C. S. D. Hoist, with boiler.
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No. XB-19. 50 H. P. Nash Gasoline Engine.
No. XB-20. 18½"x12"x10" Worthington Duplex Pump.
No. XB-22. 9"x12" Steam Pile Driver.
No. XB-23. 100 Pcs. 12" 40-lb. U. S. Sheet Steel Piling.
No. XB-24. 25 Pcs. 24" 80-lb. "I" Beams, 30'-40'.
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1 each 2, 5 and 10 H. P. General Electric 3-phase Motors, 1200 R. P. M.
1 8"x8" Ingersoll Belt-driven Air Compressor.
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Refrigerating Machines, 2 to 100 tons.
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Motors, all sizes, A. C. and D. C.

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One Deane Steam Pump, No. 16165, horizontal duplex double-acting compound non-condenser plunger and ring pattern, 14-20-12-18.

One Worthington Steam Pump, No. 100,182, size 7½x14x10.

Filtration Plant, manufactured and installed by New York Continental Jewell Filtration Co., original cost $8500, consisting of 4 filter tanks 16 ft. in diameter by 8 ft. high, with 2 ft. of sand in each; worth $1000. Also, P. M. Roots Co. 4-in. Centrifugal Blower, size 2, No. 27271, with upright engine, No. 8148, made by N. Y. Steam Power Co., for operating same.

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INDUSTRIAL PLANTS

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Scrap Iron and Steel
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GENERAL ELECTRIC MOTORS

230 volts, like new, about 2 years old.

2	50 H. P., 650 shunt wound D. L. C.	$375.00
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1	25 H. P., 650 compd. wound D. L. C.	265.00
2	15 H. P., 925 compd. wound C. V. C.	170.00
1	15 H. P., 625 compd. wound D. L. C.	200.00

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Two 50 H. P. Standard Horizontal Tubular Boilers with Steam Domes. Suitable for power or heating. Warranted in good condition. Will sell at bargain on terms to suit responsible purchaser. Address

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3 Lidgerwood Hoisting Engines, cylinders 8¼x10, D. D., D. C., first-class condition.

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2 5" Worthington Turbine Pumps, D. C. to 85 H. P. motors.

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We have accumulated a stock of wire rope that we offer at bargain prices. The lengths run from 60 to 3000 feet, from ⅜ to 1⅜ inches diameter. These are new ropes and perfectly good for a variety of purposes, but are of construction different from our regular stock ropes. It will pay you to get a list of these with our prices.

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Steel Shears, standing leg, 100 tons cap., 115', with engines. Steam hammers, 680 lbs. up. Lathes, Drill Press, Radial Drill, Planers, Shapers, Tools, Derricks, Hand-Jib Cranes. G. Y. P. Lumber, 10x10, 12x12—8' to 24'. No dealers.

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RETURN TUBULAR BOILER WANTED

One 72" x 18' return tubular boiler. Must have boiler insurance certificate for 125 lbs.

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YOU CAN SAVE 50%
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SPECIALS

400 K. W. Westinghouse-Parsons 60-cycle, 2 or 3-phase, 440-volt, with condenser.
300 H. P. Smith, type E, Gas Producer Plant, complete.

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At a Saving of 40% Over Usual Prices

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45'	¾"	$ .09 per foot
250'	1"	.12 per foot
53'	1¼"	.18 per foot
50'	2"	.24 per foot
35'	2½"	.30 per foot
25'	2¾"	.33 per foot
25'	3"	.36 per foot
1500'	3½"	.42 per foot
65'	3¾"	.45 per foot
400'	4"	.48 per foot
525'	4½"	.54 per foot
850'	5"	.60 per foot
220'	5½"	.66 per foot
30'	8½"	1.02 per foot
45'	14"	1.68 per foot

We also have in stock a considerable quantity of new and second-hand single and double leather belting at special prices. If you need belting, do not fail to send us a list of your requirements. We will send you samples and quotations.

L. F. SEYFERT'S SONS, Inc.
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BOILERS

3 150 H. P. High-Pressure Boilers.
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1 100 H. P. High-Pressure Boiler.
1 125 H. P. Skid Boiler.
5 100 H. P. Standard Boilers.
2 80 H. P. Standard Boilers.
2 50 H. P. Standard Boilers.
2 45 H. P. Standard Boilers.
4 40 H. P. Vertical Boilers.
1 35 H. P. Vertical Boiler.
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1 42"x72' No. 8 Steel Smokestack, good as new.

Also Pumps, Pipe, Fittings, Gas Engines and Hoists

Bailey & James Boiler & Machy. Co.
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FOR SALE

1 72" Plate Mill with Straightening Rolls and Table.
1 112" Plate Mill with Straightening Rolls and Table, Transfer Table and Hydraulic Shear.
1 Blooming Mill with Tables and Billet Shear.

This material is from the dismantling of the Tidewater Steel Plant at Chester, Pa. Apply to

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Front and Wilson Sts. CHESTER, PA.

Generators and Engines

For Sale—Two Single-phase G. E. Generators, 120 K. V. A., 2300 volts, belted to two Harrisburg 4-valve engines; also, switchboard, steam piping and accessories, and three 150 H. P. return tubular boilers. This equipment can be seen in operation at the Washington, N. C., Electric-Light Plant, and additional information with prices obtained from

H. B. CHARLES, Supt.
Washington, N. C.

POWER and COAL MINING EQUIPMENT
IN EXCELLENT CONDITION
FOR SALE

Direct Current Generating Sets, 250 and 550 volts.
Boilers, 150 H. P., Return Tubular.
Feed Water Heaters—Cochrane, Stillwell-Bierce and McGowan.
Horizontal and Vertical Steam Engines, 5 to 320 H. P.
Air Compressors—Laidlaw-Dunn-Gordon and Norwalk, capacities 900 cu. ft. to 2100 cu. ft.
Separators, Steam Traps and Piping.
Steam Pumps, Piston and Plunger, best makes.
Mining Equipment. Full list furnished on request.

NEW RIVER COMPANY
Equipment Sales Department MACDONALD, W. VA.

In replacing our manufacturing equipment we find the following first-class

Used Machine Tools

which we offer at attractive prices

16″x 6′ Reed.
17″x 6′ Gray.
20″x 8′ Lodge & Shipley, Q. C. G.
20″x10′ Lodge & Shipley, Q. C. G.
20″x12′ Lodge & Shipley, Q. C. G.
24″x 8′ Lodge & Shipley, Q. C. G.

SPECIAL LATHES

No. 3 Lodge & Shipley Rapid Reduction Lathe.
24″x7′ Lodge & Shipley Chucking Lathe.
14″x6′ Towsley Speed Lathe.
2 18″x8′ Lodge & Shipley Single Pulley Driven Lathes.

METAL SAWS

Globe Power Hack Saw, 8″ capacity.

MISCELLANEOUS MACHINES

One Marion Double Grinder.
One Marion Double Grinder on stand.
One Diamond Combination Grinding and Polishing Stand on column.
One Sturtevant Blower, diameter of outlet 25⅝″.
One "Ohio Planer," 24″x24″x12′, with two heads on cross rail.
Universal Swivel Table for Radial Drill.
Brown & Sharp Grindstone Frame for 5″x 36″ stone.
One Mueller Grindstone Frame for 4″x27″ stone.
One 12″x40″ Mumford Molding Machine.
Write for complete description with prices of machines in which you are interested.

The Lodge & Shipley Machine Tool Co.
CINCINNATI, OHIO

FOR SALE

Alternating Current Generators

DIRECT CONNECTED TO

GAS ENGINES

2 80 K. W. each 3-phase 60-cycle 220-volt Alternators, direct connected to Westinghouse Vertical 3-cylinder Gas Engines.

1 100 K. W. 60-cycle 3-phase 220-volt Alternator, direct connected to Duplex Tandem Alberger Gas Engine.

These outfits are in first-class operating condition and will be sold very cheap to quick buyers before we remove them to our warehouse in Chicago.

Pfannmueller Engineering Co.
Suite 1733 First National Bank Bldg.
CHICAGO

Special Bargains in Sanders

1 42″ 3-drum Perfection Sander, thoroughly overhauled.....$350.00
1 48″ 3-drum Thomas Sander.....$400.00
1 48″ 4-drum H. B. Smith Sander.....$500.00
1 48″ 3-drum Royal Invincible Sander, used only 3 weeks.....$550.00
1 54″ 3-drum J. A. Fay & Co., fine order.$500.00
1 60″ 3-drum Columbia Sander in A-1 condition $600.00

JOINTERS

1 20″ Carrey Hand Jointer.....$100.00
1 30″ Buss Extra Heavy Hand Jointer.$125.00
Woodworking machinery of all kinds.
Write, stating your requirements.

CLEVELAND BELTING & MACH'RY CO.
1922 Scranton Road Cleveland, O.

For Dependable Second-Hand Machine Tools

CONSULT

Prentiss Tool & Supply Co.
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Three very fine burglar-proof safes, suitable for bank, factory or large mercantile house. Rare bargain. A full line of new and used safes.

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CASKS FOR SALE

Heavy, well-made iron-bound casks, 42″ diameter middle, 38″ diameter ends, 42″ high, 1¼″ thick, in sound condition, with both heads in. Sold singly or in car lots.

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Third and Chestnut Sts. Philadelphia, Pa.

THERE IS A REASON

why our properly rebu lt Machinery gives satisfaction

ASK US

ENGINES, CORLISS: 26x48 Filer & Stowell, heavy duty; 24x48 Hamilton; 18x42 Lane & Bodley; 16x42 Allis; 14x42 Hamilton; 14x36 Nagle; 12x30 Hamilton; 10x30 Hamilton; 10x 24 Hamilton.

ENGINES, AUTOMATIC: 2 21x22 Ridgway; 19x18 Ball; 14x14 Ideal; 10x16x12 Buffalo Compound; 12x14 Green; 12½x12 Armington & Sims; 10x18 Buckeye; 9x10 New Victor; 8x14 Noyes; 8x10 McEwen; 5x6 Harrisurg.

ENGINES, THROTTLING: 20x24 H. S. & G.; 16x18 Skinner; 16x18 Ames; 14x14 Lewis, vertical; 12x13 New Enterprise; 12x14 Gibbs; 11x16 H. S. & G.; 10x12 Ajax; 10x15 Nagle; 9x16 Brownell; 8x10 New Erie; 8x10 Brownell; 7x10 Atlas; 6x6 Beggs; 3x4 Kriebel.

BOILERS, STATIONARY; HIGH PRESSURE: 1 200 H. P. for 125 lbs.; 2 150 H. P. for 150 lbs.; 3 150 H. P. for 125 lbs.; 2 100 H. P. for 125 lbs.; 2 80 H. P. for 125 lbs.; Standard from 150 H. P. to 20 H. P. for 100 lbs.

BOILERS, FIRE BOX: 150 to 10 H. P. high and low pressure.

BOILERS, VERTICAL: 100 to 4 H. P. plain and submerged tubular.

GENERATORS AND MOTORS: All sizes and kinds, belted and direct connected.

MISCELLANEOUS: Heaters, open and closed; pumps, all sizes; sawmills; corn mills and feed grinders; exhaust fans and blowers; woodworking machinery; iron-working tools; leather, rubber and canvas stitched belt; pipe, valves and engine and boiler fittings.

Sole manufacturers of the Leader Injector and Ejector. Ask for circular.

THE RANDLE MACHINERY CO.
1734 Powers St., Cincinnati O.

Motors, Dynamos, Switchboards, Etc.

400 H. P. G. E. Induction Motor, 720 R. P. M., 2200 volts, complete.....$2000.00
75 H. P. Westinghouse, slip ring..... 425.00
75 H. P. G. E., slip ring, new, 850 R. P. M., complete..... 500.00
50 H. P. Allis-Chalmers, 3-phase, new, 850 R. P. M., complete..... 300.00
50 H. P. G. E., 2-phase, 850 R. P. M., complete 245.00
35 H. P. G. E., 3-phase, 850 R. P. M., complete 215.00
35 H. P. Westinghouse, 2-phase, 1140 R. P. M., complete..... 200.00
25 K. W. C. & C. to Watertown engine, 115 volts..... 400.00
30 K. W. Eddy to New York safety engine, 120 volts..... 500.00
Large stock of smaller motors and dynamos, both A. C. and D. C. Let us have your requirements.

R. Scheinert & Co., 125 N. Third St., Philadelphia

Industrial Power Plant Equipment

Electric Generating Units, large stock of all kinds, including Motors, Heaters, Boilers, etc.

Send us your specifications.

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PITTSBURGH

FOR SALE—New Lathes at Bargain Prices

Geared head 20″x10′, 18″x10′, 18″x8′, 16″x 8′, 16″x6′. Cone head 20″x10′, 15″x8′, 15″x6′. All the above with semi-quick-change gears. Second-hand lathes with geared heads, quick-change gears, 16″x8′, 16″x6′, 15″x6′. Second-hand lathes, cone head, plain gears, 29″x18′, 27x16′, 20″x10′, 18″x8′, 13″x6′, 13x5′.

CHAS. T. LEHMAN, Birmingham, Ala.

DIRECT CURRENT 125 VOLTS
Direct Connected Units.

K.W.	Generator.	Engine.	Price.
9	Cr.-Wheeler	Reeves	$250
20	Ridgeway	Ridgeway	350
25	G. E.	Harrisburg	400
35	G. E.	Harrisburg	650
35	DeLaval	Turbine	450
50	Sturtevant	Sturtevant	750
75	G. E.	Harrisburg	1000
50	Wghse.	Wghse. Gas	1200

DUZETS & SONS, Hudson Terminal, NEW YORK

STEAM ENGINE AND MOTOR DRIVEN PUMP

25 H. P. 9x12 Nagle Center-Crank Plain Slide-Valve Engine in excellent condition at low price.

Motor-Driven Centrifugal Pump, 250 gals. per min. against a 225-ft. head, practically new, at half price. Will equip with any style motor desired.

Electrical apparatus of all kinds at lowest prices.

V. M. NUSSBAUM & CO., Fort Wayne, Ind.

D. C. UNITS, 250 VOLTS

300 K. W. Crocker-Wheeler, Wetherill engine $8500.00
160 K. W. General Electric to Ballwood engine 2200.00
75 K. W. Crocker-Wheeler to Harrisburg engine..... 1450.00
55 K. W. C. & C. to Harrisburg engine 1000.00
35 K. W. Crocker-Wheeler to Ames engine 900.00
Send for catalog.

Geo. Sachsenmaier & Co. 143 N. 3d St., Phila., Pa.

WE are dismantling a large plant formerly operated by the American Product Co. of Philadelphia, and are offering for sale all of the machinery used in the plant, consisting of Hydraulic Presses, Roller Presses, Digesters, Tanks, Conveyors, Boilers, Engines, Heaters, Pumps, Shafting, Hangers, Pulleys, Piping, etc.

This material is all in good condition and can be shipped at once. Illustrated circular will be mailed upon application. A partial list of the outfit is given below:

Nine 350-ton Boomer & Boschert Extra Heavy Downward Pressure Hydraulic Presses, steel beams, steel cylinder, iron platen. Inside diam. of cylinder, 15″; diam. steel rods, 4½″; width between rods, 72″; movement of ram, about 48″; platen, 62″ square. Each Press complete with pan 6′x6′ 6″. Presses arranged for transfer-car system. Each Press complete with transfer car, also four extra cars.

Eight Roller Presses, made by Kutztown Foundry & Machine Co.

Sixty Digester Tanks, 68″ diam. and 18 to 20′ long, ⅝ and ¾″ shells.

One Rectangular Open Tank, 4′ wide, 10′ long, 30″ deep, ¼″ material.

Two Cylindrical Wooden Tanks, 8′ diam., 14′ high, open top, 1¾″ material.

Eight 150 H. P. 72″x18′ Horizontal Return Tubular Boilers, 125 lbs. working pressure.

Six 200 H. P. 78″x20′ Horizontal Return Tubular Boilers, 125 lbs. working pressure.

One 72″ Self-supporting Steel Stack, 85′ high, ladder entire length.

One 72″ Self-supporting Steel Stack, about 100′ high, ladder entire length.

One 46″ Selfsupporting Steel Stack, about 80′ high, with ladder.

One 12″x36″ Allis Right-Hand Corliss Engine, 60-120 H. P.; wheel 10′ diam., 17″ face; split pulley 72″ diam., 17″ face; 4″ steam, 5″ exhaust.

One 12″x30″ Allis Left-Hand Corliss Engine, 50-100 H. P.; split wheel 9′ diam., 15″ face; 3″ steam, 5″ exhaust.

One 14″x16″ Snell & Meharg Horizontal Left-Hand Self-Contained Engine; wheel 48″ diam., 19½″ face; 3″ steam, 4″ exhaust, 3″ Pickering governor; 50-60 H. P.

One 7″x8″ Snell & Meharg Vertical Engine; wheel 32″ diam., 6″ face; 1½″ Pickering governor; 10-12 H. P.

Two 1000 H. P. Cochrane type Feed-Water Heaters.

One 500-gal. Deane Underwriter's Fire Pump, size 14″x7½″x12″; 6″ suction, 5″ discharge.

Two 14″x3¾″x12″ Warren Hydraulic Duplex Pumps.

One Sturtevant Steel Plate Exhaust Fan, 36″ inlet, 30″ outlet, direct connected to vertical steam engine.

One 22″x12′ Fifield Lathe, compound rest, 1½″ hollow spindle, screw and rod feed, hand cross feed, 18″ 4-jaw chuck, Union; small face plate, four-step friction countershaft, steady rest.

One 10″ Bignall & Keeler Mfg. Co. Pipe Cutter, St. Louis, Mo.

Two Revolving Wire Screens, mesh openings in screens 6 to 1, 48″ diam., 15′ long, 52″x9″ pulleys.

One Revolving Wire Screen, mesh openings in screen 6 to 1, 36″ diam., 12′ long, 56″x9″ pulley.

Large assortment of Shafting, Hangers, Pulleys, Conveyors, Link Belting, Piping, etc.

FRANK TOOMEY, Incorporated
127-131 North Third Street PHILADELPHIA, PA.

Priced for Quick Sale

Slightly used Gasoline Engines, Wheeling Forced Feed Crushers, Elevators and Pulverizers—

1— 9 H. P. Fairbanks-Morse Vertical Engine, with water circulating tank and 18″ friction clutch pulley.....$281.00

1—11 H. P. Monitor Gasoline-kerosene engine, mounted on steel beam trucks, complete with 27″x8″ clutch pulley, Elkhart magneto, batteries, etc., complete.....$324.00

1—No. 2 Wheeling Crusher, with smooth or corrugated manganese steel jaws, bronze bearings, steel frame, capacity 10 tons ground limestone or 50 tons crushed rock daily, including pulley.....$292.00

1—No. 3 Wheeling Crusher, 9″x15″ opening, on skids, manganese jaws, adjustment to ½″, bronze bearings, steel frame, capacity 100 tons daily.....$525.00

1—No. 1 Bar Hammer Pulverizer, on skids, with pulleys, manganese steel hammers, steel screen, capacity three tons pulverized per hour.....$410.00

1—No. 2 Bar Hammer Pulverizer, manganese steel hammers, manganese grate bars, capacity five tons per hour....$800.00

1—36 ft. chain and bucket elevator, continuous type, Link-Belt make, chain C-132, 16″ buckets, capacity 75 tons per hour, with drive pulley.....$348.00

1—12 ft. Wood Frame continuous bucket elevator, 5″ or 7″ buckets, with drive pulley..... $88.00

Several belts in lengths varying from 20′ in 5-ply rubber to 60′ lengths of heavy Balata belting at greatly reduced prices.

The above material has been used in connection with exhibits made at State and County Fairs, or in the case of the pulverizers, elevators and belting was taken in exchange for larger outfits.

First-class condition guaranteed.

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12, 16, 20, 25, 30, 35, 40 and 45-lb. SECTIONS
SPLICE BARS, TRACK BOLTS AND SPIKES, FROGS AND SWITCHES
RELAYING STEEL RAILS
IN ALL SECTIONS FOR IMMEDIATE SHIPMENT FROM STOCK

A. S. C. E. Sections

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PROMPT DELIVERY.
8, 12, 16, 20, 25, 30, 35, 40 pounds per yard.
With Splices and Spikes.

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Certificates of Inspection by Hildreth & Co., Inspecting Engineers of New York City, assuring absolutely first quality, furnished free of cost.

Locomotives

Four wheel type

40 tons; 17"x24"; 160 lbs. pressure

Overhauled
Modern

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ARCADE BUILDING
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One 10-ton gasoline macadam roller, latest type, standard make, nearly new. Will sell at a low price. Write

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Laborers Free

We supply direct on receipt of trial order, male help, all nationalities, in any number, for skilled or common labor work; men to board themselves or with employers. Bridge, Concrete Form Carpenters and Helpers, Machinists, Engineers, Firemen. Coal Passers, etc.

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STEEL RAILS

60—67s—70s—74s with angle bars

Send your inquiries.

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QUARRY & BRICK PLANT MACHINERY
OUR SQUARE DEALINGS WILL WARRANT YOUR CONTINUED PATRONAGE.
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500 Tons 80-lb. Rails.
500 Tons 90-lb. Rails.
Several Locomotives and Cars.

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RAILS AND ACCESSORIES
NATIONAL STEEL RAIL CO.
I. H. COHN, Pres. and Genl. Mgr.
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Tractor-Roller and Wagons FOR SALE

A Buffalo Steam Ten-Ton Tractor and Twelve Five-Ton Wagons for use with it. Used about three months.

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1 Contractor's outfit; Wagons, Slip Scrapers, Dump Cars, 36" gauge.
1 Little Giant Steam Shovel.
1 Huber Traction Engine.
1 Hoisting Engine.
1 Centrifugal Pump.
Boilers, Stack, etc.
1 Porter build Locomotive, Saddle-Tank, 7x12, 36" gauge, new.
1 standard gauge 17x24 Baldwin.
1 36" gauge 9x14 Saddle-Tank Vulcan.
1 36" gauge 9x14 Saddle-Tank Porter.
1 10x16 36" gauge Richmond Loco. Works 6-wheel Saddle-Tank.
1 42" gauge American type Va. Iron Works, 9x16.
1 42" gauge Saddle-Tank Porter.
1 45-ton Vulcan Steam Shovel on trucks, standard gauge.

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Released by Pennsylvania R. R.

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Relaying Steel Rails

35-lb., 40-lb., 56-lb., 60-lb., 70 lb., 80-lb., 85-lb. and Angle Bars to lay same

Advantageously located for Southern delivery; also other weights of **RELAYING RAILS**, in different sections of the country; and **NEW STEEL RAILS**, all weights. We handle first-class Relaying Rails and do not select them from scrap. Let us know your requirements. We buy Rails fit to relay, and pay spot cash.

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Low Prices on New FROGS and SWITCHES.

RELAYING RAILS

56 to 80-lb. sections, located in different parts of the country, and all equipped with angle bars to fit. Ready for prompt shipment. New or relaying light rails at low prices. New frogs, switches, bolts, spikes, etc.

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RELAYING RAILS

20, 25, 30, 35, 40, 45, 50, 56, 60, 65, 70, 80, 85, 90 and 100 lb., all with Fish Plates.

NEW RAILS

8, 12, 16, 20, 25, 30, 35, 40, 45 lb., at manufacturer's prices.

LARGE TONNAGES—Carload and less carload lots, advantageously located for Southern delivery.

Splice Bars for any section rail in stock.

Frogs, Switches, Bolts, Nuts, Spikes, and all Track Accessories.

New and Second-hand Pipe, all sizes, with good Threads and Couplings.

Rebuilt Locomotives, Cars and Equipment.

All second-hand materials guaranteed. Subject to inspection during loading, or will ship subject to your approval at destination. Attractive Prices. Quick Shipment.

Before buying write for our bulletin.

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FOR SALE CHEAP

One Land Pile Driver, 3000-lb. hammer, 50 ways and steel rollers.
One Steel Stack, S. S., 6'x100'.
One Steel Stack, S. S., 10'x150'.

CENTRAL TRANSFER CO.
415 N. Front St. BALTIMORE, MD.

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Ten-ton Macadam Roller, in excellent condition. Low price for quick sale. Write

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Contractor's Equipment
For Sale at a Bargain

36-gauge Locomotives — overhauled — fine shape.
1 10x16 Porter Locy. No. 3489, new fire box.
1 10x16 Baldwin Locy. No. 27997.
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1 9x14 Porter Locy. No. 3127.

STEAM SHOVEL

1 1¼-yd. Vulcan Steam Shovel on M. C. B. trucks, with extra set of traction wheels, steel boom.

HOISTING ENGINES

2 10x12 D. C. S. D. Friction Drum Hoists.
1 10x12 D. C. S. D. Link Motion Hoist.
2 8¼x12 D. C. S. D. Link Motion Compound Geared Hoists.
1 7¼x10 D. C. S. D., with Boiler.
1 6¼x10 D. C. D. D. Link Motion Friction Drums.
1 6x10 D. C. S. D., with Swinger.

Above material cheap for quick sale, or will lease entire equipment.

L. BRENNER & CO.
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FOR SALE

LOCOMOTIVES, STEAM SHOVELS and RAILS

We have at our shops in Birmingham, thoroughly overhauled, 48 standard and 3' gauge Locomotives.
Also 10 Marion and Thew Shovels.
Also, 3000 tons of Relaying Rails, all weights. Write us for prices and terms.

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Standard Gauge.
10—34' 60,000 cap. Cars, Steel Trucks, overhauled.
1—8000-gallon; 1—6000-gallon Tank Cars.
1—25-ton Baldwin 4-wheel Switcher.
1—30-ton Baldwin 4-wheel Switcher.

"ZELNICKER" In ST. LOUIS
Other Rare Bargains

FOR SALE
Relaying Steel Rails

About 700 tons, 56 lbs. per yard, with plates.
About 43 tons, 58 lbs. per yard, with plates.
About 600 tons, 60 lbs. per yard, with plates.
About 800 tons, 67 lbs. per yard, with plates.

NEW STEEL RAILS
All Weights

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RAILS LOCOMOTIVES

RELAY RAILS

LOCOMOTIVES—Narrow and Standard Gauge. 150 Locomotives at our shops, 6 to 80 tons. Freight and Passenger Cars.

Largest Stock Locomotives in United States

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1 36-ton Heisler Geared Locomotive, built in 1913, in first-class condition.
1 30-ton H. K. Porter Mogul Locomotive.
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20 Logging Cars, 40,000 lbs. capacity.
14 miles 25 and 35 lb. Relay Rails.
110 tons Scrap Rails.
Located on New Orleans, Mobile & Chicago R. R.

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TRACTION ENGINE provided with extra set of ROAD ROLLER wheels, making TEN-TON STEAM ROLLER when desired. Will be sold at a bargain. Can be shown in operation. Call to inspect or write for particulars to

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12-ton 1912 Geiser Double Cylinder Roller, in good condition. Apply at once to

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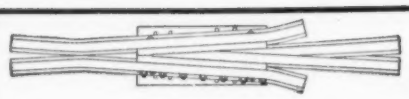
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Only AIR DUMP CAR under absolute control of operator. Can be brought back to upright position, after passing center of gravity, before entire contents of car have been unloaded. This admits of equal distribution of material on both sides of track. Write.

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THE CINCINNATI FROG & SWITCH CO.
CINCINNATI, OHIO
Frogs, Switches, Crossings, Switch Stands, Rail Braces, Etc. (3)



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Crossings, Switch Stands and Rail Braces
CONLEY FROG & SWITCH COMPANY
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RAILROAD BRIDGES and EQUIPMENT
HENRY LEVIS & COMPANY
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Manufacturers of
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CINCINNATI, O.

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Special Work Guard Rail Clamps
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NEW FIRST QUALITY
Steel Tee Rails Standard Sections A. S. C. E. Weighing
12, 16, 20, 25, 30, 35, 40, 45, 50 and 60 Lbs. Per Yard
WITH ALL NECESSARY COMPLETE FASTENINGS
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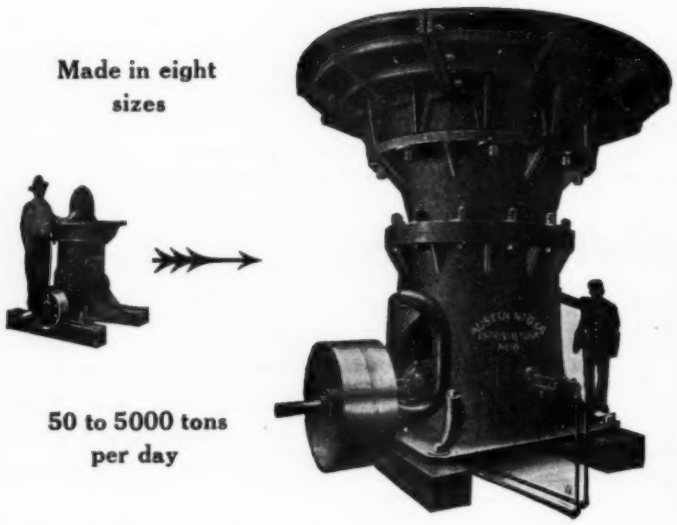
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THE AMERICAN FROG & SWITCH CO., Hamilton, Ohio
Frogs, Switches, Switch Stands, Rail Braces

AUSTIN GYRATORY CRUSHERS

Made in eight sizes



50 to 5000 tons per day

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OF ALL KINDS. FOR ALL PURPOSES
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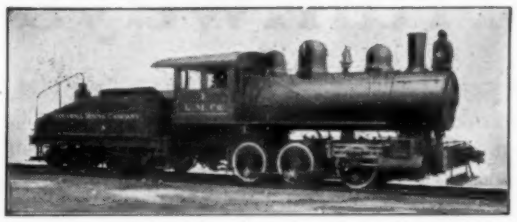
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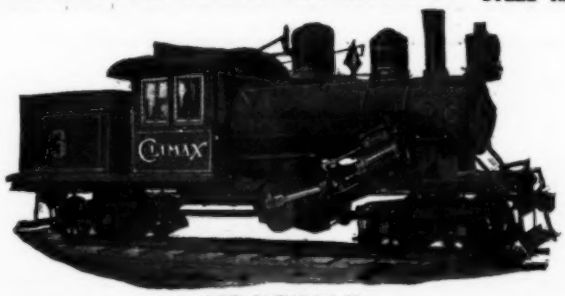
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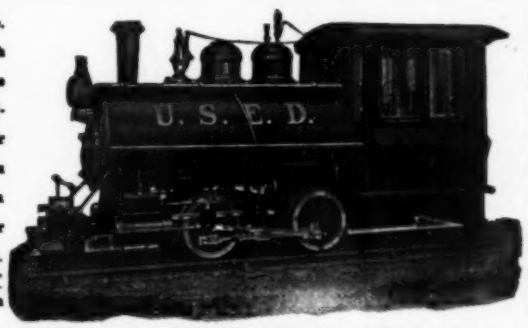


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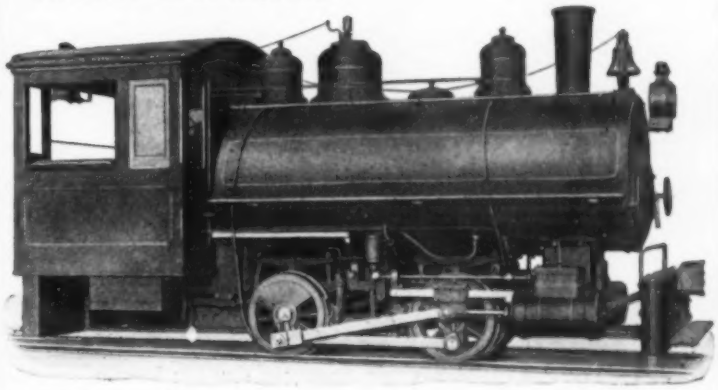
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Manufactured by

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DEPENDABILITY

is a first essential in a contractor's locomotive. Such an engine must stand up in the most severe service to which a locomotive can be subjected.



The illustration shows a standard Baldwin "dinkie"—an 18-ton engine with heavy frames, a large boiler, ample water and fuel capacity and high-class equipment: **a locomotive that can be depended upon to stay on the job.**

Investigate this engine before you purchase additional power.

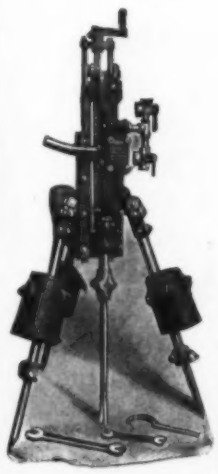
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The Laidlaw-Dunn-Gordon line of Air-Compressors includes apparatus especially designed for every service. A few of the small sizes are described in bulletin L.527-29.



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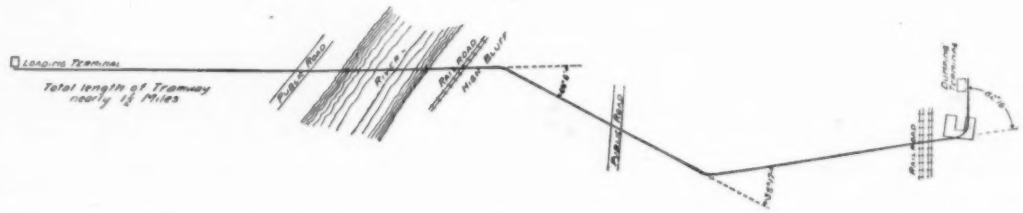
Laidlaw-Dunn-Gordon Plant

New York Office: 115 Broadway **Works: Cincinnati, O.**

Branch Offices in All Principal Cities. L180.1

As to Curves in Tramways

Until the advent of the Lawson Tramway, the curve has been a point to be avoided at almost any cost—necessarily so because of the severe side strain imposed upon the tall towers inseparable from the bucket tramways. There is no room to discuss this in an advertisement, but it is fully treated in our Bulletin H, along with other details and adaptations. The curve or angle presents almost no difficulties in the Lawson Tramway. The construction is such that side strain is entirely eliminated except the negligible strain arising from the traction rope. There are no towers—the structure is close to the ground—and the added expense for the angle is almost nominal.



The line cut shows one Tramway that has been in successful operation for several years. The total length is a little under 1½ miles. There are three curves aggregating a total of 145° 38′, or very nearly a complete half turn. It is operated with 80 cars, each carrying from 1200 to 1500 lbs. of rock in addition to the weight of the car. The speed is 400 ft. per minute, and the total traffic is 700 tons per day. There is a grade of about 100 ft. in the total length, all against the load. The final curve of nearly a right angle is on the top of the main mill building. The tramway crosses several public roads, two railroads, and one river, the last on a span of about 700 ft.

While it is manifest that a straight line is preferable and naturally the cheapest, the Lawson Tramway has no limitations in regard to curvature. Any number of angles can be negotiated at an increase of cost which is almost nominal.

Our Bulletins A and B will be found interesting, and the services of our Engineering Department are placed at the disposition of our clients. Lay your case before us with as complete data as possible, and we will give it our best attention.

Very respectfully,

AMBURSEN COMPANY,

(Tramway Department)

61 Broadway, New York City

An interesting demonstration of the operation of

HAYWARD SKID EXCAVATORS

WHEN equipped with a double drum engine a Hayward Skid Excavator will operate all types of Hayward Buckets—Orange Peel, Clam Shell or Drag Scraper. The illustrations on this page show an Excavator with Bull Wheel operating a Hayward Drag Scraper Bucket of 1 cu. yd. capacity. This is a section of the Passaic Valley, N. J., Trunk Sewer, a $12,000,000 undertaking, calling for a great amount of open cut excavation—a class of work in which Hayward Buckets constantly prove their efficiency.

These illustrations are from our New Catalogue 41 which contains about 50 pictures of our machines in actual operation. It should be read by all contractors and others having materials to dig or handle. Write for a copy.



ILLUSTRATION D 1509



ILLUSTRATION D 1508

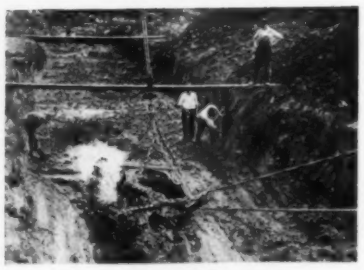


ILLUSTRATION D 1512

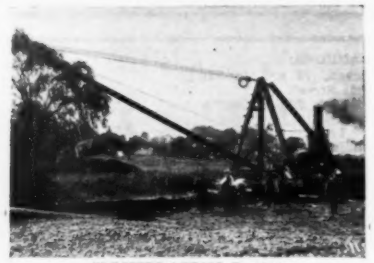


ILLUSTRATION D 1511

Illustration D 1509 shows the Bucket being lowered into the excavation—note how the teeth strike the material first.

Illustration D 1512 shows the class of material handled and the manner in which the Bucket fills—usually in excess of its rated capacity.

Illustration D 1508 shows the Bucket leaving the trench. On this machine a two-part hoisting line and two-part hauling line are used.

Illustration D 1511 shows the Bucket raised clear of the ground and moving in the direction of the discharging point.

Illustration D 1510. Discharging at spoil bank.



ILLUSTRATION D 1510

THE HAYWARD COMPANY

50 Church Street **New York, U. S. A.**



THE CHATTANOOGA RY. & LIGHT COMPANY'S TYPE "O" THEW SHOVEL

The Thew Shovel Is Standard

— FOR —

Brick Yards, Road Building, Street Grading, Cellar and Sewer Digging, Electric Railway Construction and All Excavations involving daily outputs of 1000 cubic yards or under.

1200 Thew Shovels are now in operation. Some of them are near you.

Write for Catalog "M" and List of Thew Owners

THE THEW AUTOMATIC SHOVEL CO.
LORAIN, OHIO

A Light, General Utility Steam Shovel for Contractors' Use



The cut shows machine with Skimmer Scoop for street grading and road work. It will dig a crust that would otherwise have to be broken by a rooter. Leaves a flat, finished surface for paving. Operated by two men. Capacity 150 to 300 wagon-loads in ten hours.

KEYSTONE
Traction Excavator

This portable machine can be used with *three* kinds of scoops—adapting it to practically every grading and excavating job in the contracting field; the Skimmer Scoop for street grading; the Dipper Scoop for side hill embankments; the Ditcher Scoop for trenches, irrigation ditches, etc.

It is light—only 8 tons; portable—moving on its own power anywhere a dump wagon can go, and it is readily loaded on a freight car for shipment.

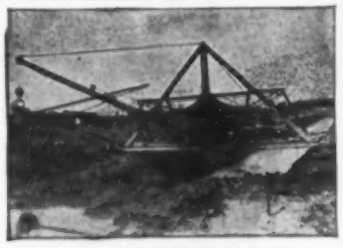
It saves both in first cost and operation over the heavier types of steam shovels. The price is surprisingly low.

We have photos of the Keystone on jobs similar to yours. Write for them and for descriptive matter.

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An Asset For Contractors



THE BAY CITY LAND DREDGE

An Asset because—It does more work and does it more economically; low operating cost and maintenance cost; practical for both land and water use; self-propelling; quick and economical in operating; driven by gasoline engine; easily dismantled and transported; operating crew three men. These are only a few of the advantages. Full details in free illustrated catalog.

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All Sizes. Steel or Wood Hulls. Vertical or Bank Spuds.
Prompt Shipment. Send for New Catalog.

AMERICAN STEEL DREDGE CO. FT. WAYNE, IND.

THE MARION STEAM SHOVEL COMPANY

Builders of Railroad and Revolving Type Steam and Electric Shovels, Dipper, Elevator and Hydraulic Dredges, Scraper-Bucket Excavators, Ballast Unloaders, Railroad Ditchers and Log Loaders.

Station H MARION, OHIO

Monighan Drag Line Excavators

STEAM AND GASOLINE POWER



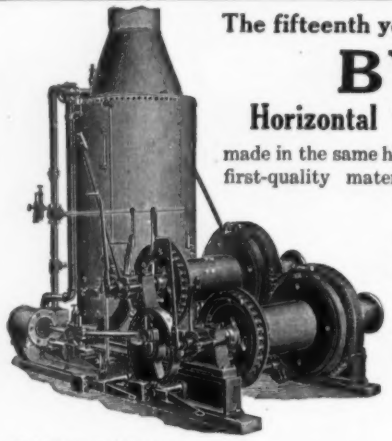
The excavator shown in this cut can be placed on the work at less cost than any other excavating outfit. Crew for operating machine consists of only two men. The excavator is mounted on traction wheels provided with self-propelling mechanism. Boom is 40 feet long. One cubic yard bucket. We will give you, upon request, full information regarding capacity, cost of operation, etc.

We build excavators with booms from 40 to 125 ft. long and buckets from one to three cubic yard capacities.

Write for Excavator Catalog

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Agent—P. B. ENGH { 341 Pacific Electric Bldg., Los Angeles, Cal. / 704 Hooker & Lant Bldg., San Francisco, Cal. / Everett Bradt & Wright, Houston, Tex. / Everett Bradt & Wright, Dallas, Tex.



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Horizontal Type Hoisting Engine

made in the same high-grade way, and of the same first-quality materials as the **BYERS** Standard vertical type machines.

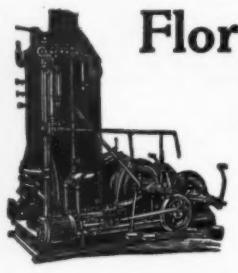
It is hard to improve on correct design, good materials and careful workmanship.

The John F. Byers Machine Co.

Main Office and Works: Ravenna, Ohio.

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Makers of Hoisting and Excavating Equipment, Derrick Fittings, Derrick Cars, Material Elevators, Etc.



Flory Hoisting Engine

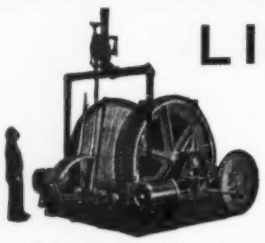
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For Contractors, Bridge Building, Dredging, Cableways and General Hoisting Duty.

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Reversing Mine Hoist with low side stands



Patent Double Platform Hoists

Driven by Electric-Motor, Gasoline or Steam Engine

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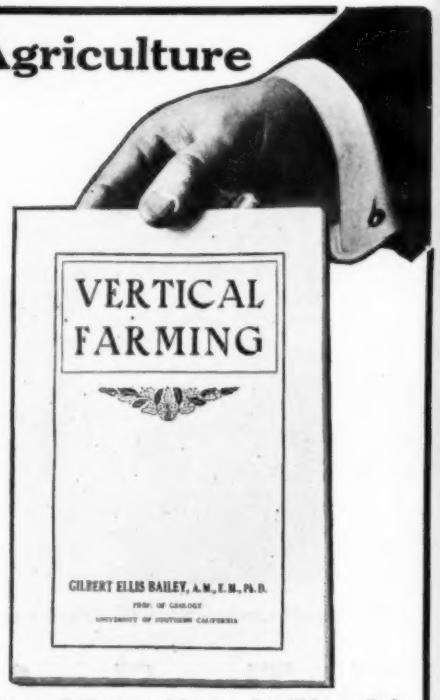
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Vertical Farming makes available tons per acre of new plant food, ensures abundant moisture and largely increases crop yields.

Dr. G. E. Bailey, Geologist at the University of Southern California, has prepared a reading course of instruction in soils and vertical farming. We have printed it in a well-illustrated book. It will be mailed

FREE ON REQUEST

to anyone owning a farm in the United States. Get this book about soils. Work your farm to its full capacity. Know your land. Learn its composition. Use the fertilizers nature is storing beneath your 6-inch farms. Send a postal request today for Vertical Farming Booklet 369-F. Be sure to state the acreage of the farm you own.

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Pioneer Powder Makers of America

Established 1802 **WILMINGTON, DELAWARE**

Keystone Explosives

QUALITY—EFFICIENCY

Nitro-Glycerine Dynamite
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EVERYTHING IN HIGH EXPLOSIVES

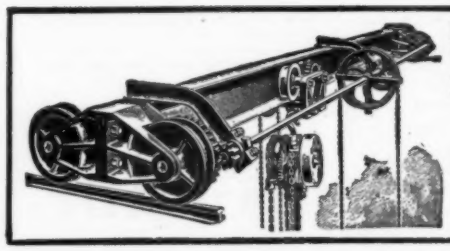
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WE SPECIALIZE ON EXPLOSIVES

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HAND POWER TRAVELING SWING CRANES

SIMPLEX CHAIN HOIST TROLLEYS AND OVERHEAD TRAMWAYS

Send for Catalog.

J. G. SPEIDEL, Reading, Pa.



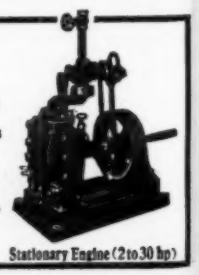
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Drill Hoists — Steam and Air — Motors — Pneumatic Hoists
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Grand Haven, Mich.



Stationary Engine (2 to 30 hp)

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RED "H" BRAND

Corrugated Metal Culverts

in use in the Southern States today than any other kind, and the reasons are obvious.

We have been in business longer than any other Culvert concern in existence.

We are not confined to any one State or District.

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A Brand New Catalog just off the press.

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Genuine "Open-Hearth" IRON (99.875% Pure)
CULVERTS
Low relative prices and high quality won't mix.
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LARGEST OUTPUT
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WRITE FOR SAMPLES AND PRICES
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(The Hardest Rhyolite)
FOR BALLAST, CONCRETE, MACADAM, ETC.
Large Output—Prompt Shipments. Ask for Quotations

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or scientific management in the making and use of shovels was first advocated by this company in 1905. Drop us a card and let us tell you what it has done for others and what it will do for you.
THE CONNEAUT SHOVEL CO., Shovel Specialists, CONNEAUT, OHIO



—and some of the railroads they are fighting for—use

"ACME" (NESTABLE)
Corrugated NO-CO-RO METAL Culverts

At present 14 foreign governments and nearly 100 domestic (and foreign) railroads use "ACME" Culverts. They are used also on various U. S. Government projects, one of which has employed approximately some 4 miles of them. And this is not of recent occurrence. "ACME" (Nestable) Culverts have been specified and used with success for YEARS. They were the FIRST nestable culverts—and they are STILL the first in point of practicability of construction, ease of installation and maximum resistance to corrosion (due to 99.90% pure NO-CO-RO Metal). Learn all about them—for better work on your job—for PROFIT. Catalog G-9.



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THE CANTON CULVERT & SILO CO.
MANUFACTURERS
CANTON, OHIO, U.S.A.



If you are contemplating installing a culvert that will last for years to come, buy our

American Ingot Iron Culverts

We also highly recommend our

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FOR IRRIGATION

Lone Star Culvert Company
HOUSTON, TEXAS

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QUALITY——PURITY——DURABILITY——STRENGTH

QUALITY in Corrugated Culverts means Permanence in Business. THAT'S WHY we put QUALITY in our Culverts. Analysis of Metal yours for the asking.

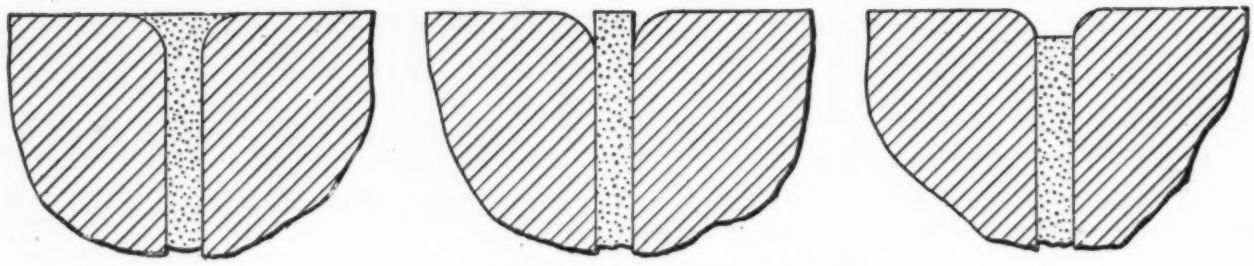


The Salisbury Culvert is constructed in the strongest possible manner, and will outlast any other culvert on the market.

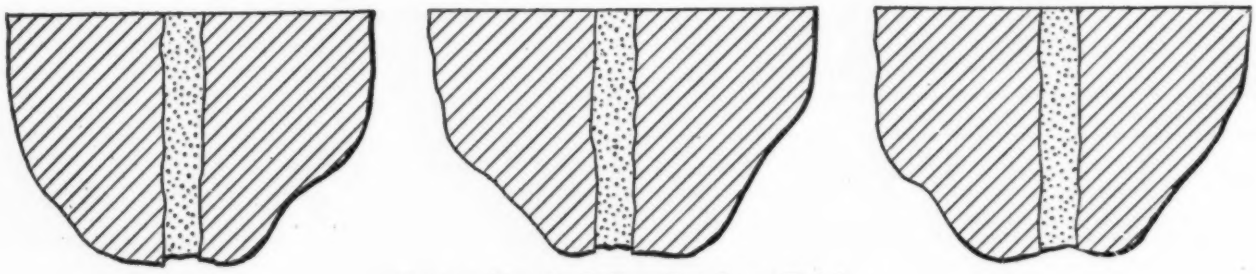
SALISBURY METAL CULVERT COMPANY
SALISBURY NORTH CAROLINA

LOW PRICES — WRITE FOR PRICES

How Filler acts under Traffic with Repressed and Wire-Cut-Lug Brick



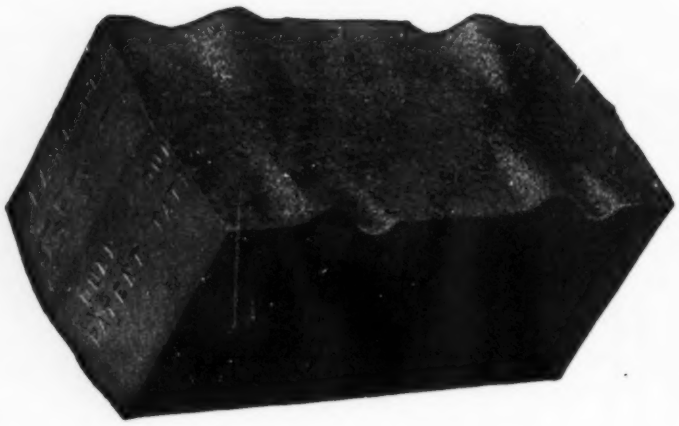
Series No. 1—Repressed Brick



Series No. 2—Wire-Cut-Lug Brick

DUNN Wire-Cut-Lug BRICK

constantly Keep the Filler in perfect condition



This is not theory. We have actual photographs of Wire-Cut-Lug Brick roads in service to prove this. But study the Brick shown here. The **sharp, square** edges that you see are the product of the WIRE-CUTTING process, as opposed to the rounded edges of the repressing process. These sharp edges stand up under traffic and protect the filler; and the wire cutting furthermore always produces perfect lugs, so that the filler gets well down between. Suppose you write us now for the FULL story of the superiority of Wire-Cut-Lug Brick.

Dunn Wire-Cut-Lug Brick Company

CONNEAUT, OHIO

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Danville Brick Company, Danville, Ill.
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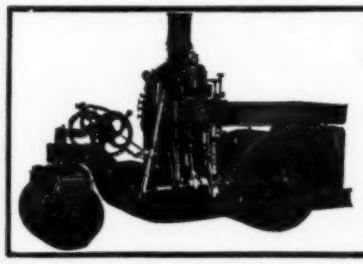
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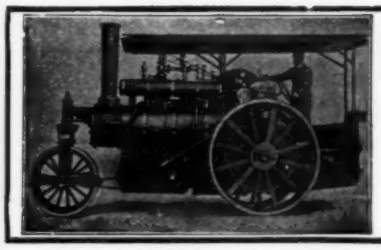
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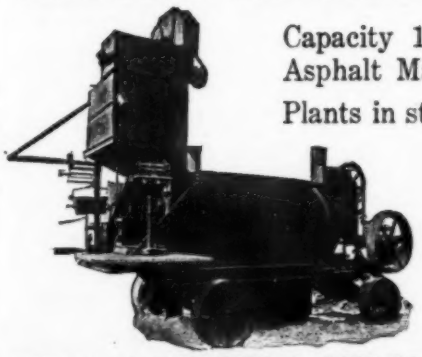


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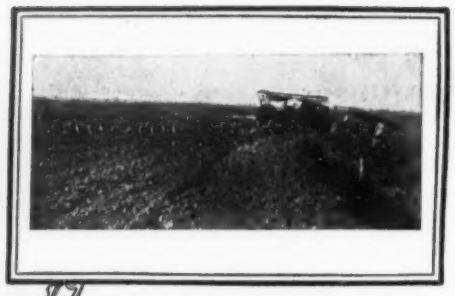


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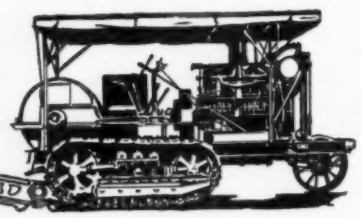
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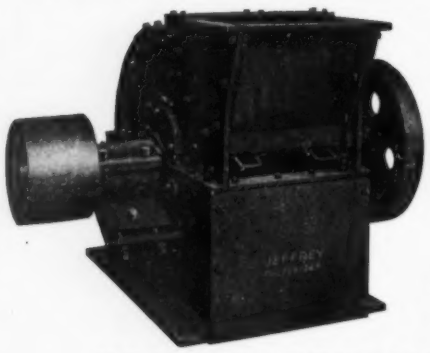
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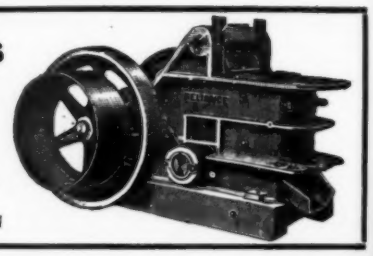
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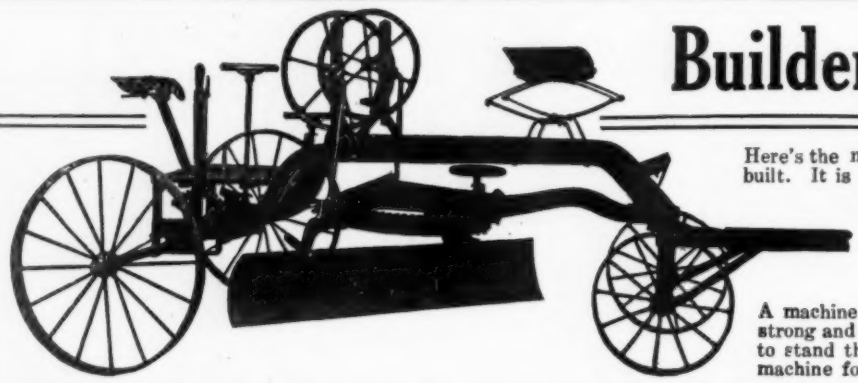
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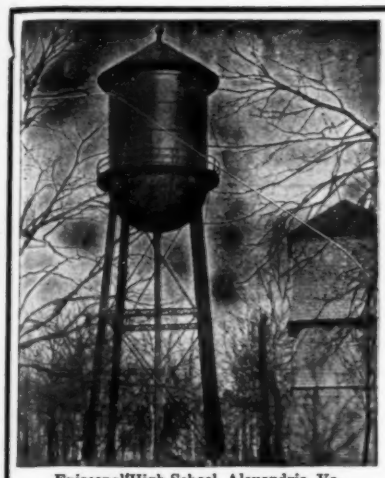
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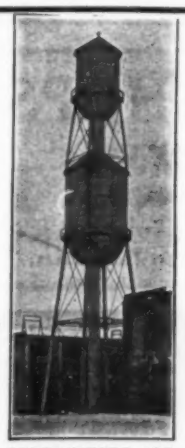
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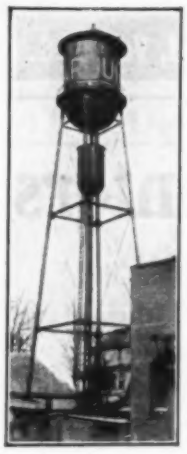
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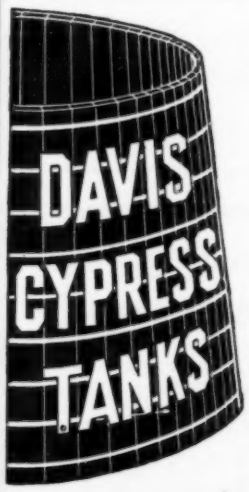
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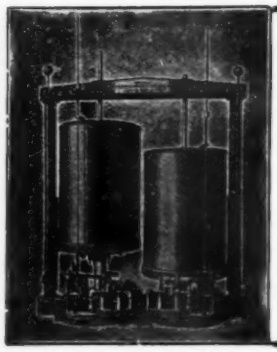
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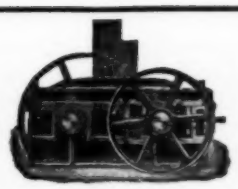
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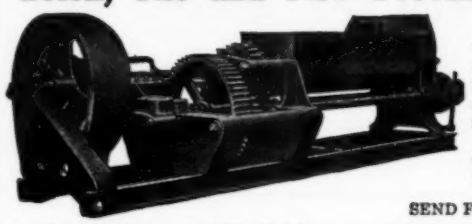
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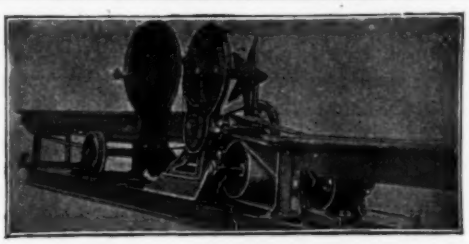


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ACCESSIBILITY. Only a day or a night from New York or Florida on the splendidly equipped trains of the Seaboard Air Line Railway.
Extensive and delightful views in all directions. Adjacent to 18-hole course of Southern Pines Country Club. Good automobile roads. Excellent hunting. Consumptives not received.

A. I. CREAMER, M. H. TURNER, Proprietors.

Steel Castings

Weighing from 1 lb. to 300 lbs. each

Suitable for Dogs, Clamps, Wheels, Pinions and other castings where strength is required.
Used almost exclusively for Autombile Work.
Quick deliveries.
Your inquiries solicited.

Crucible Steel Casting Co., Lansdowne Del. Co., Pa.

THE HAMMOND HOTELS

THE HOTEL ESSEX

Opposite South Terminal Station
BOSTON, MASS.

European Plan.
Rates Moderate.
Absolutely Fireproof

Free Transfer Baggage from and to Station.
Terminal of Trains from South and West.

DAVID REED, Manager

Murphy's Hotel and Annex, RICHMOND, VIRGINIA

The largest, most modern and best located house in the city, being situated on Broad Street in the heart of the retail and theatrical district, and on direct car lines to all railroad stations. European plan, $1.00 per day up.

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MALLEABLE CASTINGS

WE POSITIVELY GUARANTEE QUALITY AND DELIVERIES

SEND US YOUR INQUIRIES

The Columbus Malleable Iron Co., Columbus, Ohio

TWO HOTELS OF PECULIAR EXCELLENCE IN TWO CHARMING OLD SOUTHERN HISTORIC CITIES

MOBILE, ALABAMA

The CAWTHON
(FIREPROOF)

Accommodates 400. Fine Golf Links. Yachting, Hunting, Fishing. Shell Roads. Superb Climate. Winter Garden Cafe.

European Plan *Address for Book*
C. B. HERVEY, Manager

PENSACOLA, FLORIDA

The SAN CARLOS
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Accommodates 400. Fine Golf Links. Yachting, Hunting, Fishing. Shell Roads. Superb Climate. Orchestra. Rendezvous of U. S. Navy.

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Riverside Steel Casting Co.

NEWARK, N. J.

CRUCIBLE STEEL CASTINGS
from 1 to 1000 lbs.

"SALAMANDRINE" STEEL POTS
for Lead, Annealing and Galvanizing

RAIL OR WATER DELIVERIES

MALLEABLE IRON CASTINGS

High Tensile Strength Exceedingly Tough
We are equipped to make large and small castings.
Prompt Shipment Our Specialty
WRITE US.

GENERAL MALLEABLE COMPANY, Warren, Ohio



THE TRIP TO PANAMA

is most enjoyable through the logical gateway, which affords a visit to quaint, historic

NEW ORLEANS
AND

The St. Charles

Finest All-Year Hotel in the South
Under efficient management from Waldorf-Astoria, New York City.

EUROPEAN PLAN. MODERN. FIREPROOF.
ALFRED S. AMER & CO., Ltd., Props.
Also THE EDGEWOOD, Greenwich, Conn.
"New York's Ideal Suburban Hotel"
MAY TO OCTOBER.

Malleable Iron Castings

of Highest Quality

Annual Capacity 25,000 Tons. Castings of all descriptions furnished.
Send Blueprints or Samples for Estimates.

MISSOURI MALLEABLE IRON CO.
EAST ST. LOUIS, ILL.

—TERRELLS—

METAL LOCKERS METAL SHELVING

J. M. VAN HARLINGEN, Southern Agent, Candler Bldg., ATLANTA, GA.

—WILSONS—

STEEL ROLLING DOORS WOODEN ROLLING PARTITIONS

MALLEABLE IRON CASTINGS

THE MARION MALLEABLE IRON WORKS
MARION, INDIANA

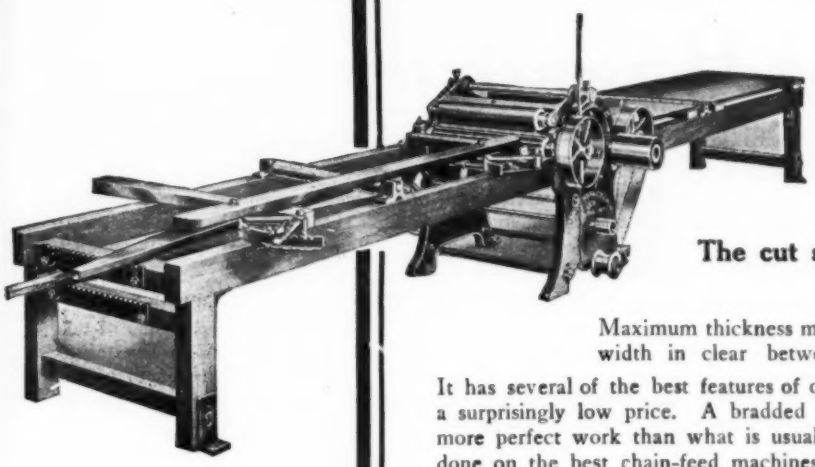
CASTINGS GREY IRON

D. F. HULL'S SONS Hagerstown, Md.

We make a Specialty of Castings of All Kinds

LANE GANG EDGERS

(LIKE LANE MILLS)



ARE IN A CLASS BY THEMSELVES

The cut shows our 14-inch Gang with three saws

Maximum thickness machine will saw is 4 inches. Maximum width in clear between frame sides is 2 feet 3 inches.

It has several of the best features of our larger and more expensive machines, but we sell it at a surprisingly low price. A bradded roll in the feed-out table helps this machine to do much more perfect work than what is usually done on small edgers, approaching very closely that done on the best chain-feed machines.

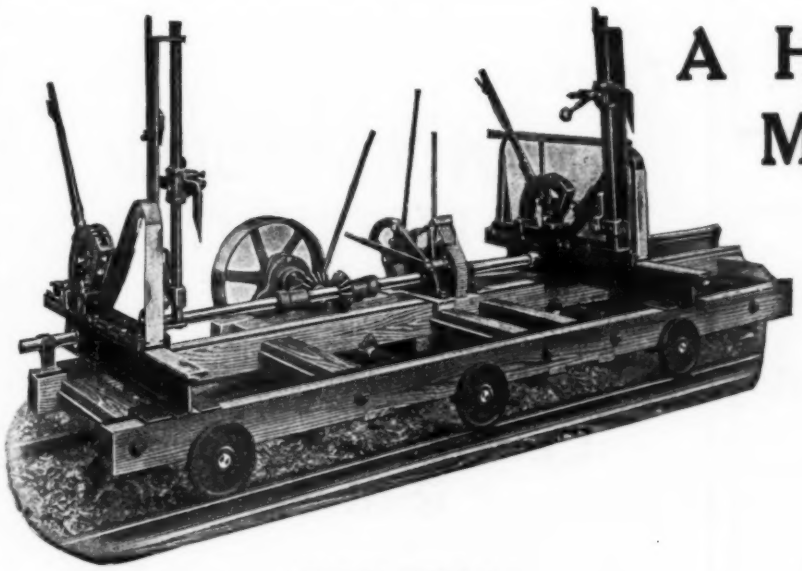
Our Special Edger Catalog

is yours for the asking

LANE MANUFACTURING CO.

MONTPELIER, VERMONT

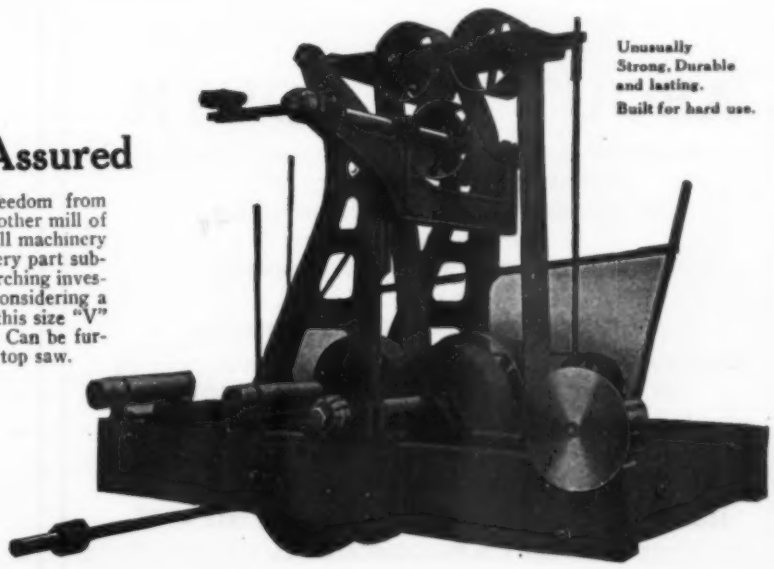
15



Size "V" Saw Mill Carriage.

A Heavy Duty Knight Mill for Big Timber

Built exceptionally strong to produce the maximum daily output and stand up under the most severe conditions. Equipped throughout with those features that have placed Knight sawmill machinery in the foreranks in all the timber sections of this country, this mill will meet your requirements in every particular.



Unusually Strong, Durable and lasting. Built for hard use.

Buy a Mill with Larger Profits Assured

in so far as reliable construction, rated capacity, durability and freedom from breakdowns is concerned, and you will have nothing to regret. In no other mill of our make is our policy to manufacture only the highest class of sawmill machinery more in evidence than right here in this unusually powerful mill. Every part subjected to hard wear is especially reinforced, and we invite the most searching investigation or comparison of any experienced lumberman who may be considering a new plant or the refitting of his present mill, feeling confident that in this size "V" mill we have outdistanced every other mill of its kind on the market. Can be furnished with single belt feed husk, or top saw rig, with reversed belted top saw.

Write today for handsomely illustrated catalog showing this mill and others in detail.

Knight Manufacturing Co.

Dept. A. L. **CANTON, OHIO**

OPPORTUNITIES IN THE SOUTH

— FOR —

Manufacturers, Investors, Merchants, Farmers and Homeseekers

In the following pages leading railroads and a number of towns and cities invite your attention to the opportunities possessed by the rapidly developing South for every line of industry, for investments, and as a place for home-making in the city and on the farm.

The marvel of the day, commanding the world's attention to a greater extent probably than the development of any other section has ever received, is the amazing material unbuilding of the South. Everywhere men in every walk of life are beginning to study the South. They are coming to realize something of its matchless resources, to know something of the opportunities which it presents for manufacturing and for mining operations, for city building activities, for the utilization on a large scale of the cut-over timber lands and the reclaimable wet lands of the South.

With a view to presenting to the world from week to week the resources and the growth and the opportunities which are offered for all of these things, some of the leading railroads of the South and Southwest, some of the great public service corporations intimately identified with the upbuilding of this section and some of its progressive towns and cities from week to week tell the story of what they have to offer to the manufacturer, to the investor, to the merchant, to the pleasure-seeker, to the health-seeker. Study the pages that follow, and if you are at all interested in knowing about the South and its opportunities, its resources and its progress, if you want to keep in touch with that section which is attracting greater attenion than any other part of America, get in communication with the organizations whose advertisements are to be found in the following pages.

Hosiery Mill Location

Will be glad to confer with interested parties regarding excellent location for hosiery mill. Splendid building how ready for machinery.

Healthful location, ample supply of labor, citizens of community interested in seeing development made.

Seaboard Air Line Railway

J. A. PRIDE, General Industrial Agent NORFOLK, VA.

THE WEST POINT ROUTE

Atlanta & West Point Railroad

THE WESTERN RAILWAY OF ALABAMA

Offers excellent locations for

Truck, Fruit, Stock and General Farming

Available Factory Sites. Abundance of Raw Material and Good Transportation Facilities

Write for information.

E. S. CENTER, General Agent, ATLANTA, GA.

Attractive Factory Sites

ON THE

Illinois Central Railroad

For full particulars address the undersigned

Free books of information on farm lands issued by the Illinois Central Railroad

ABOUT THE SOUTH

MISSISSIPPI—A WONDERFUL AGRICULTURAL STATE

LOUISIANA—NATURE'S GARDEN SPOT

MR. FARMER, THE YAZOO-MISSISSIPPI DELTA IS CALLING YOU

THE PHILOSOPHY OF A NORTH MISSISSIPPI FARM

SOUTH MISSISSIPPI, THE SETTLER'S CHANCE

Everyone who would like a Southern home or Investment should have a copy of one or all of these books. For free copies address

J. C. CLAIR

Industrial and Immigration Commissioner

ILLINOIS CENTRAL RAILROAD COMPANY

135 East 11th Place, CHICAGO, ILL.

To the

MANUFACTURER and DISTRIBUTOR

Abundant supplies of coal, coke, iron, timber and other raw materials lie in the regions of Georgia and Alabama which are traversed by the

Central of Georgia Railway

Cheap electric power, numerous undeveloped water-powers, good home markets and excellent shipping facilities. Therefore, manufacturing conditions are ideal.

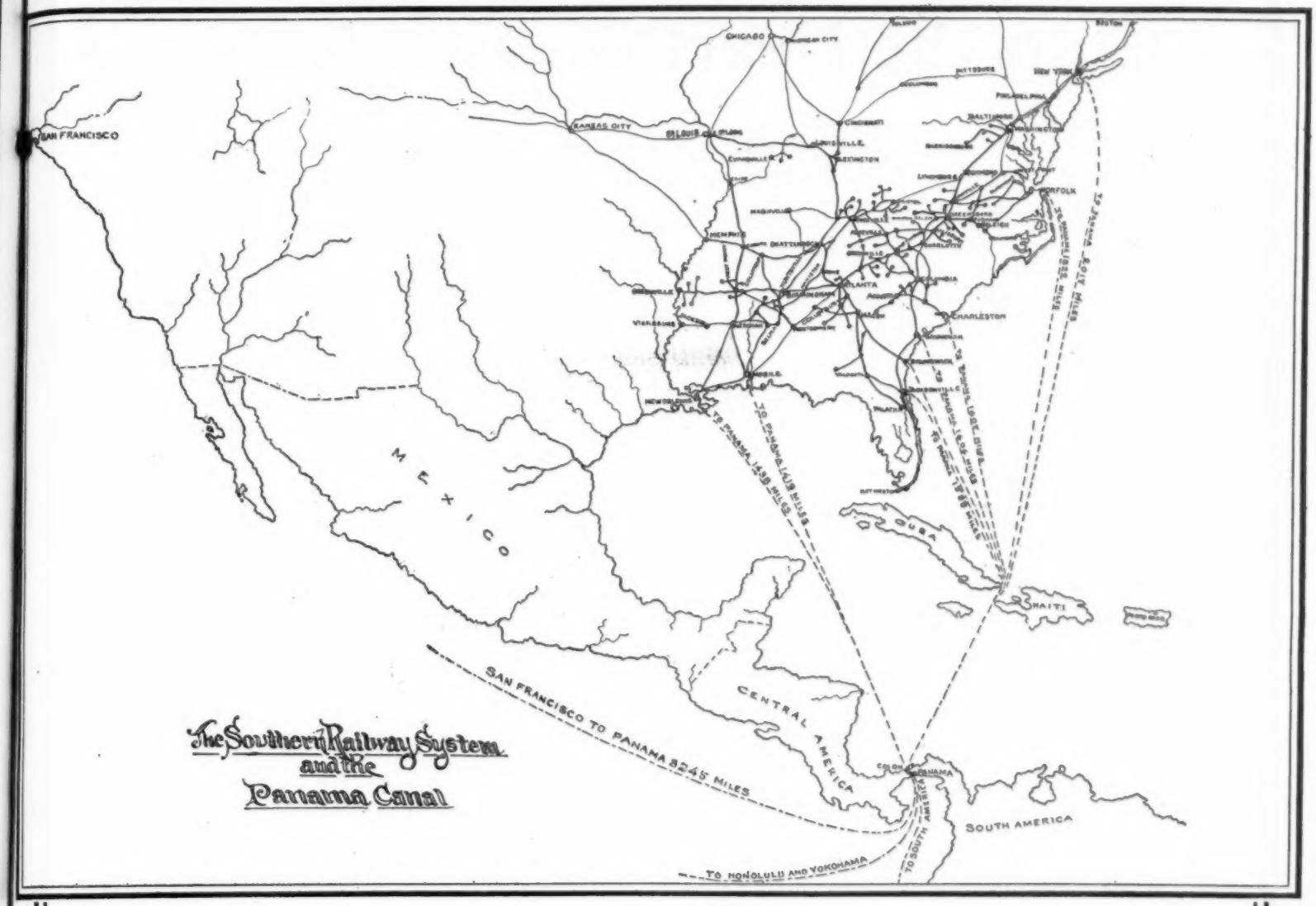
Many of the cities on the Central of Georgia Railway occupy advantageous positions for distributing warehouses, and a number of the larger northern and eastern manufacturers supply their southeastern trade from branch houses in these cities.

Full and detailed information upon application.

J. M. MALLORY, Industrial Agent

SAVANNAH, GEORGIA

The Map Tells the Story



Get Closer to South American Trade

Locate your factory amid the South's great supplies of raw materials—Cotton, Timber, Iron, Steel, Clays and Earths—where practically inexhaustible Coal supplies are convenient and cheap, where hydro-electric developments have made available more than a million horse-power, and where reliable labor is plentiful at reasonable wages.

The South American Agent of Southern Railway Company will help you find markets for your products in Central and South America.

If you want to reduce your manufacturing costs, establish a distributing warehouse, or locate in America's most charming home section, let us have an industrial agent call on you and tell you, free of cost, about the advantages of the South and Southern Railway service.

Virginia
North Carolina
South Carolina
Georgia
Florida
Southern Indiana
Alabama
Mississippi
Tennessee
Kentucky
Southern Illinois

M. V. RICHARDS
Industrial and Agricultural Commissioner
Room 52 Washington, D. C.

Southern Railway
Mobile & Ohio Railroad
Georgia Southern & Fla. Ry.
Virginia & Southwestern Ry.
Southern Ry. in Mississippi

In the Heart of America

Did you ever contemplate the position of West Virginia with respect to the country's centers of population and commerce?

It stretches its arm North almost to the doors of Pittsburgh, with which it connects closely by both rail and water.

It is but 150 miles from Cincinnati, with the Ohio River washing its shores on its way to the big Buckeye city.

Its borders are but a few hours' run from Cleveland, Columbus, Toledo and the great Lake ports, and several railroads run direct between them.

Twelve hours away lies Chicago, and there is choice of a number of routes.

The way to St. Louis is not long by water, and is short by rail, with Louisville lying between, Memphis not far beyond, and the whole Mississippi Valley easy of access.

Washington is only fifty miles east, Baltimore but an hour's travel farther, and then come Wilmington, Philadelphia and New York, all reached in the space of six or seven hours' travel from its eastern border.

Richmond, Norfolk and the growing South are within as easy reach.

West Virginia encompasses within her own borders the best of the Appalachian coal basin—thousands of square miles of solid seams of coal.

It is the largest producer of natural gas of all the States in the Union.
It has 300,000,000 tons of high-class iron ore, suitable for open-hearth purposes.

It produces oil of very high quality, and the production is being greatly increased by the development of new oil territory.

It has a million and a half acres of virgin forests, abounding in hardwoods of the finest quality.

It has a large extent of territory peculiarly adapted to the production of apples and peaches in great quantity and of the best quality.

It has large deposits of limestone of a quality that makes it particularly valuable in fluxing iron.

It has sands from which is manufactured glass of the best grade.

It has shales and clays of the variety that produce the highest class brick and paving block, and drainage and building tile as well.

It has all the necessary ingredients for the finest quality of Portland cement.

West Virginia, in fact, lies right in the heart of things offering countless opportunities for profitable manufacturing and agricultural operations.

Through its Industrial Department this railroad invites investigation in person or by correspondence on the part of manufacturers who wish to know of Specific Openings for profitable undertakings.

Baltimore & Ohio Railroad

W. W. WOOD, General Industrial Agent
Baltimore, Md.

Clinchfield's Strategic Location

Look at the Map

The Clinchfield provides the most important connecting link by the shortest possible route between the Central West and the Piedmont section of the South.

The Clinchfield provides connections at its northern end with the Louisville & Nashville and Chesapeake & Ohio, enabling it to reach the leading markets in the Central West.

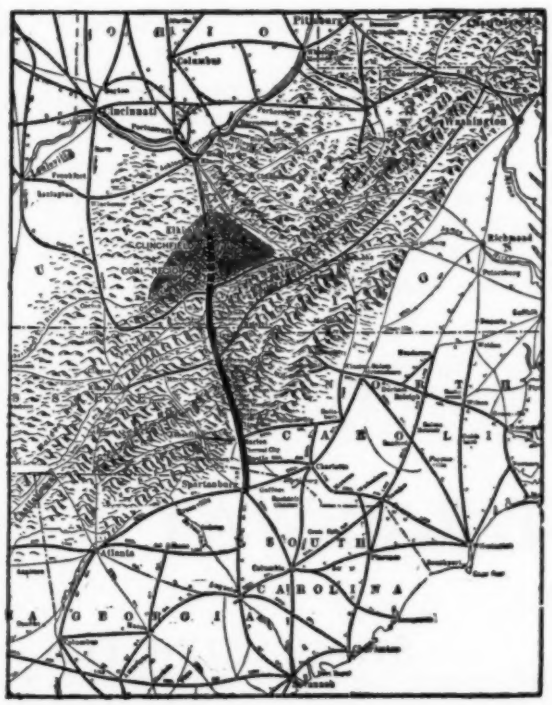
The Clinchfield crosses the Norfolk & Western and the Southern railways, which give an outlet to the markets of the North on the one hand and the South and Southwest on the other.

The Clinchfield has connections at its southern end with the Seaboard Air Line, the Atlantic Coast Line and the Southern Railway, and through them with the other principal railroads of the South, enabling it to thoroughly cover this growing section.

The Clinchfield has direct connections with the important Southern seaports, and through them with the leading markets of the world.

The Clinchfield passes through portions of Eastern Kentucky, Southwestern Virginia, Eastern Tennessee and Western North and South Carolina, all of which possess, in a practically virgin state, valuable resources of minerals, timber, water-powers and rich farming and fruit-growing lands.

The Clinchfield's territory offers an abundance of varied raw materials, a plentiful supply of white labor, an ideal climate and the best of railroad facilities.



Send for our booklet "The Land of Opportunities," which illustrates and describes the country along the Clinchfield Route and tells of its opportunities.

Carolina,
Clinchfield & Ohio Rwy.

"THE ROAD OF OPPORTUNITY"

R. F. BREWER, Industrial Agent

Johnson City, Tenn.



A Trainload of South Florida Cattle for Kansas City Packers.

Why Florida is Adapted to Raising Livestock

W. A. McRae, Florida Commissioner of Agriculture, outlines in the following striking synopsis Florida's resources and advantages for raising livestock. Mr. McRae's observations are based upon years of knowledge and experience, and a special study of Florida's adaptability for stock raising. Read what he says:

"There are many reasons why Florida is adapted to the successful growing of livestock of all kinds, almost without limit.

"Among the principal reasons is its unlimited and unfailing supply of water, which is absolutely essential in every country to the successful production of livestock of all kinds. Where water is not running from natural sources, there is hardly a locality in the State that cannot be made to artificially produce water enough for all reasonable purposes, whether it be stock raising or other purposes.

"Another, which is equally as important, is the short feeding and sheltering period necessary in this State as compared with other States of the Union, it being necessary, and that in parts of the State only, to feed no more than three months and to shelter, possibly all told, no more than six weeks in the entire year.

"Another and as great an advantage in this State is the adaptability of the soils of Florida to the production of all kinds of forage crops and at less cost of production than elsewhere.

"Of the entire area of Florida there are only about 3,000,000 acres in farms and under farming control. There are not less than 30,000,000 acres that can be used to a greater or less extent for forage production or grazing purposes for livestock.

"This will show that Florida has within her boundaries the greatest grazing region east of the Mississippi River, and practically an unlimited capacity to produce forage crops to supply the livestock that could be grown upon it.

"The number of livestock of all kinds in the State is about 2,000,000 in round numbers, and the value of these is $25,000,000. Instead of this small number there should be not less than 10,000,000 head of livestock growing in Florida, in which case the value, instead of being $25,000,000, should be $250,000,000 to $300,000,000. This may sound large, but it is entirely practical and reasonable and can be easily attained."

"Live Stock Farming in Florida" is the title of an interesting illustrated booklet containing a fund of authentic data and information on this subject. We will gladly send it to those desiring to investigate this opportunity.

FLORIDA EAST COAST RAILWAY

(FLAGLER SYSTEM)

J. E. INGRAHAM, Vice-President **ST. AUGUSTINE, FLA.**

South Florida as Compared with Southern California

Extracts from letter written by the Honorable Peter O. Knight, Counsellor at Law, and successful business man of Tampa, Florida:

"January 2, 1915.

To the Editor of the Tampa Times:

Land for agricultural purposes in all agricultural portions of the United States, other than Southern California and South Florida, is sold for from $75 to $300 per acre. The farmer in the United States, other than in South Florida or Southern California, who can net $25 per acre by the most scientific and businesslike method of farming, is a wonder. As a matter of fact, statistics show that the average return for farms in the United States in sections other than Southern California and South Florida does not exceed $2.50 per acre.

This was illustrated at a meeting of the bankers of the State of Missouri, held about a year ago, at which meeting the fact was developed that the wheat growers of Missouri for the preceding year received $13.81 gross per acre for the sale of their wheat, and that it cost the farmers of that State $12 per acre to produce the wheat, thus giving them a net profit of only $1.81 per acre for their investment and their labor. And the question with the bankers of Missouri was whether or not this was a sufficient margin to justify them in lending money to the farmers of that State. It is an established fact that many people in South Florida make annually from $100 to $1200 per acre.

So that, from an agricultural standpoint, South Florida has only one competitor in the United States—and, so far as that is concerned, in the entire world—and that is Southern California.

Southern California in natural advantages, to wit, climate, soil, and distance from the markets, cannot be compared with Southern Florida.

Citrus fruit land in Southern California, well located, sells for from $1000 to $1500 per acre, whereas the same character of land, similarly located, in Southern Florida sells for from $50 to $150 per acre.

The annual rainfall in Florida is fifty-three inches, whereas in Southern California it is but ten inches. The rainy season in Florida is in summer, when the weather is warm and when the rains are needed, whereas the rainy season in California is in the winter, when it is cool, and when the rains are not needed. Water must be purchased for irrigating purposes in Southern California, and the water so purchased costs an average of $12 per acre per annum.

California soil will not produce as much citrus fruits per acre as Florida soil, nor as good. Whatever may be said about the superiority of the oranges, it is admitted by every person that Florida's grapefruit is superior to any in the world, and that this State stands practically alone as the grapefruit producing section.

Florida is only two days from the markets, whereas Southern California is six and seven days from the markets.

No poor man, or many of even moderate means, can today engage in citrus fruit culture in Southern California, because it is the rich man's country. No man could reasonably expect to go to California, purchase ten acres of first-class citrus fruit land, and make a grove, without taking with him at least $20,000. Upon the other hand, a man can buy ten acres of first-class citrus fruit land in Florida, properly located, clear it, fence it, plant it in trees, fertilize it, take care of it for five years, and computing interest upon all of his investments at the rate of eight per cent. per annum, he will not have over $4000 invested. And, in addition to that, if he has ordinary business acumen and a reasonable amount of energy, he can, during the meantime, engage in the growing of vegetables for the Northern markets and make enough money off the growing of vegetables, not only to enable him to live, but to take care of his grove besides. And when he has his grove completed and in bearing, which can be done in five years from the time he starts it, he has an assured net income of from $2500 to $6000 a year, the amount dependent alone upon his energy and his brains. Whereas, upon the contrary, for a man to go to California to engage in the citrus fruit culture, he has to pay anywhere from $10,000 to $15,000, in the first place, for a ten-acre tract of land, before he commences to clear it, fence it, purchase his trees, plant them, care for them, and fertilize them, and compute interest on his investment for a period of five years, before the trees come into profitable bearing. The bare statement of the facts shows that there is no comparison between citrus fruit culture in Southern California and in South Florida.

I have lived in Florida for a period of thirty years, and never became interested in the culture of citrus fruits until I went to California in 1912 and investigated conditions there thoroughly. Within one month after my return to Florida I purchased land, and am now extensively engaged in the culture of citrus fruits, having planted some seven thousand trees. The more I have investigated the situation the more confident I am that, with the same amount of energy, brains and money, more net money can be made in the culture of citrus fruit in Florida than in any other business in the world.

Florida has proven itself in the past fifteen years to have been the most conservative State in the Union. There has been a greater adherence by the lawmakers of this State to the Constitution, as intended by our forefathers and the framers of it, than in any other State in the Union; and inherent, natural, personal rights, individually, and rights of property, are here fully protected and respected, whereas California is full of all of the reforms and "isms" that the most progressive and ingenious demagogue could possibly think of. It has the initiative, the referendum, the recall, woman suffrage, and everything else that is necessary to keep the State going politically and to keep it in a turmoil.

Florida, furthermore, is new in point of development. Its waters and its bays are filled with fish, its forests with game, and the winter tourist, if he is a sportsman, can revel and enjoy himself to his heart's delight. If he wants to sit around the verandas and piazzas of hotels, he cannot find any hotels anywhere in the world to equal some of the resort hotels of Florida.

So that I think it can easily be said that from an agricultural standpoint, or from the standpoint of the tourist, or a person who desires to have a winter home in a country with a temperate climate, there can be no comparison between Southern California and South Florida."

We will be glad to send you facts and figures regarding the possibilities for citrus fruit culture in South Florida

SEABOARD AIR LINE RAILWAY

The Progressive Railway of the South

J. A. PRIDE, General Industrial Agent **NORFOLK, VIRGINIA**

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Baltimore Audit Co., Baltimore, Md.

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dford Steam Stone Works, Bedford, Ind.

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Gandy Belting Co., Baltimore, Md.
Graton & Knight Mfg. Co., Worcester, Mass.
Main Belting Co., Phila., Pa.
Schieren Co., Chas. A., New York, N. Y.
Smith-Courtney Co., Richmond, Va.

Belting. (Chain.)
Bartlett & Snow Co., C. O., Cleveland, O.
Caldwell & Sons Co., H. W., Chicago, Ill.
Jeffery Mfg. Co., Columbus, O.
Link-Belt Co., Nicetown, (Philadelphia) Pa.

Belt Cement.
Graton & Knight Mfg. Co., Worcester, Mass.

Belt Conveyors.
Jeffrey Mfg. Co., Columbus, O.

Belt Dressing.
Dixon Crucible Co., Joseph, Jersey City, N. J
Gandy Belting Co., Baltimore, Md.
Graton & Knight Mfg. Co., Worcester, Mass.

Belt Lacing. (Leather.)
Graton & Knight Mfg. Co., Worcester, Mass.

Belt Lacing and Supplies. [See Belting, Leather, Canvas, Rubber.]

Bicarbonate Soda. (Sap Stain Lumber Dip.)
Church & Dwight Co., New York, N. Y.

Billets. (Basic Open Hearth Quality.)
Gulf States Steel Co., Birmingham, Ala.

Bins (Steel)
Merritte & Co., Camden, N. J

Blackboards. (Slate.)
East Bangor Con. Slate Co., The, East Bangor Pa.
Johnson, E. J., New York, N. Y.

Blocks. (Paving Creosoted.)
American Creosote Works, New Orleans, La

Block Fillers
Barrett Mfg. Co., Phila. Pa.
Standard Oil Co., Newark, N. J.
U. S. Asphalt Refining Co., New York, N. Y

Blowers and Exhaust Fans.
American Blower Co., Detroit, Mich.
Buffalo Forge Co., Buffalo, N. Y.
General Electric Co., Schenectady, N. Y.
Green Fuel Economizer Co., Matteawan, N. Y.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
South Atlantic Blow Pipe & Sheet Metal Co., Savannah, Ga.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.

Blow Torches. (For Soldering and Brazing.)
Prest-O-Lite Co., Inc., The, Indianapolis, Ind.

Blueprinters.
Childrey Co., Richmond, Va

Boilers.
Babcock & Wilcox Co., New York, N. Y.
Bailey & James Boiler & Mchy. Co., Joplin, Mo
Cameron & Barkley Co., Charleston, S. C.
Casey-Hedges Co., Chattanooga, Tenn.
Chattanooga Boiler & Tank Co., Chat'n'ga, Tenn
Coatesville Boiler Works, Coatesville, Pa.
Cole Mfg. Co., R. D., Newnan, Ga.
Gibbes Machinery Co., Inc., Columbia, S. C.
Harris Bros. Co., Chicago, Ill.
Hartley Boiler Works, Montgomery, Ala.
Jeffery-Griner Machinery Co., Philadelphia, Pa
Keeler Co., E., Williamsport, Pa.
Keystone Boiler & Foundry Co., Columbia, Pa.
Lookout Boiler & Mfg. Co., Chattanooga, Tenn.
Lombard Iron Works, Augusta, Ga.
Mecklenburg Iron Works, Charlotte, N. C.
Murray Iron Works, Burlington, Ia.
New York Central Iron Works Co., Hagerstown, Md.
Phoenix Iron Works Co., Meadville, Pa.
Schofield Iron Works, Macon, Ga.
Southern Engine & Boiler Works, Jackson, Tenn.
Valk & Murdoch Iron Works, Charleston, S. C.
Vogt Machine Co., Henry, Louisville, Ky.
Walsh & Weidner Boiler Co., Chattanooga, Tenn.
Zelnicker Supply Co., Walter A., St. Louis, Mo.

Boiler Covering.
Chesapeake Roofing & Pipe Covering Co., Baltimore, Md.

Boiler Graphite.
Dixon Crucible Co., Joseph, Jersey City, N. J.

Boiler Tubes. [See Tubes, Boiler.]

Bolts, Nuts, Rivets, Studs and Washers.
Progressive Mfg. Co., Torrington, Conn.
Republic Iron & Steel Co., Youngstown, O.
Upson Nut Co., The, Cleveland, O.

Bonds. (Surety, etc.)
Fidelity & Deposit Co. of Balto., Baltimore, Md.

Bottling Outfits.
Vilter Mfg. Co., Milwaukee, Wis.

Brass Goods.
Bailey-Lebby Co., Charleston, S. C.
Buckeye Iron & Brass Works, Dayton, O.
Lunkenheimer Co., The, Cincinnati, Ohio
Powell Co., Wm., Cincinnati, O.

Brass Railing and Grilles.
Newman Mfg. Co., Cincinnati, Ohio

Brewers' Machinery.
Vilter Mfg. Co., Milwaukee, Wis.

Brick. (Acid.)
Hood Brick Co., B. Mifflin, Atlanta, Ga.

Brick. (Building.)
Adamantine Clay Products Co., North Mountain, W. Va
Am. Enameled Brick & Tile Co., New York, N. Y
Hood Brick Co., B. Mifflin, Atlanta, Ga.
Hydraulic Press Brick Co., St. Louis, Mo.
Kingsport Brick Corp., Johnson City, Tenn.
Scott Brick Co., Alex. A., Knoxville, Tenn.
Southern Face Brick Exchange, Birmingham, Ala.
Standard Brick Co., Macon, Ga.

Brick. (Enameled.)
Am. Enameled Brick & Tile Co., New York, N. Y.

Brick. (Fire.)
Killian Fireproofing & Brick Works, Killian, S. C.
Louisville Fire Brick Works, Highland Park, Ky.
Mexico Brick & Fire Clay Co., Mexico, Mo.
Pomona Terra-Cotta Co., Pomona, N. C.
Standard Brick Co., Macon, Ga.
Stevens' Sons Co., H., Macon, Ga.
Union Mining Co., Mt. Savage, Md.

Brick. (Paving.)
Carlyle Paving Brick Co., Portsmouth, O.
Copeland-Inglis Shale Brick Co., Birmingham, Ala.
Dunn Wire-Cut-Lug Brick Co., Conneaut, Ohio
Southern Clay Mfg. Co., Chattanooga, Tenn.
Standard Brick Co., Macon, Ga.

Brick and Clayworking Machinery and Supplies.
Chase Fdry. & Mfg. Co., Columbus, O.
Fernholtz Brick Machinery Co., St. Louis, Mo.
Freese & Co., E. M., Galion, O.
Steele & Sons, J. C., Statesville, N. C.

Bridges. (Concrete.)
Cunningham Construction Co., Shreveport, La
Luten, Daniel B., Indianapolis, Ind.
Requarth Co., C. W., Charlotte, N. C.
Turner, C. A. P., Minneapolis, Minn

Bridges. (Rolling Lift.)
Scherzer Rolling Lift Bridge Co. Chicago, Ill.

Bridges. (Steel.)
American Bridge Co. of New York, N. Y.
Belmont Iron Works, Philadelphia, Pa.
Champion Bridge Co., Wilmington, Ohio.
Chicago Bridge & Iron Works, Chicago, Ill.
Cunningham Construction Co., Shreveport, La.
East St. Louis Bridge Co., East St. Louis, Ill.
Oregonia Bridge Co., Lebanon, Ohio.
Richmond Structural Steel Co., Richmond, Va.
Scherzer Rolling Lift Bridge Co., Chicago, Ill.
Vincennes Bridge Co., Vincennes, Ind.
Virginia Bridge & Iron Co., Roanoke, Va.

Bridge and Structural Iron Paints.
Chattanooga Paint Co., Chattanooga, Tenn.

Bridge Builders. (Timber.)
Murray & Co, Inc., W. D., Norfolk, Va

Brimstone.
Union Sulphur Co., New York, N. Y

Buckets. (Clam Shell.)
Hayward Company, New York, N.Y.
Williams Company, G. H., Cleveland, Ohio.

Buckets. (Orange Peel.)
Hayward Co., The, New York, N. Y

Buckets. (Dredging, Excavating, Sewer, etc.)
Hayward Co., New York, N. Y.
Monighan Mch. Co., Chicago, Ill.
Williams Co., The G. H., Cleveland, O

Buckets. (Grab.)
Hunt Co., Inc., C. W., West New Brighton, N. Y.

Buckets. (Ore Handling.)
Caldwell & Son Co., H. W., Chicago, Ill.
Hayward Co., New York, N. Y.
Link-Belt Co., Nicetown (Philadelphia), Pa.
Williams Co., The G. H., Cleveland, O.

Buhr Stones.
Starr Co., B. F., Baltimore, Md.

Builders and Contractors.
Interstate Const. Co., Louisville, Ky.
Stone & Webster Eng. Corp., Boston, Mass.
Turner, C. A. P., Minneapolis, Minn.
White Companies, J. G., New York, N. Y.

Building Stone.
Atlantic Stone Co., Atlanta, Ga.
Bedford Steam Stone Works, Bedford, Ind.

Building Supplies.
Harris Bros Co., Chicago, Ill.
Southern Building Material Co., Norfolk, Va

Burners. (Oil.) [See Fuel Oil Equipments.]

Bushings. (Oilless, for Loose Pulleys.)
Metaline Co., Long Island City, N. Y.

Cables.
Broderick & Bascom Rope Co., St. Louis, Mo.
Roebling's Sons Co., John A., Trenton, N. J.

Cables. (Underground.)
Safety Insulated Wire & Cable Co., New York, N. Y

Cables and Wires. (Insulated.)
American Steel & Wire Co., Chicago, Ill.
Safety Insulated Wire & Cable Co., New York, N. Y

Cableways. (Overhead Suspension.)
Ambursen Co. (Tramway Department, New York, N. Y.
Broderick & Bascom Rope Co., St. Louis, Mo.
Fiory Mfg. Co., S., Bangor, Pa.
Lidgerwood Mfg. Co., New York, N. Y.
Roebling's Sons Co., John A., Trenton, N. J.

Can and Box Making Machinery. (Tin.)
Bliss Co., E. W., Brooklyn, N. Y.

Canning Machinery and Supplies.
Robins & Co., A. K., Baltimore, Md.
Sprague Canning Machinery Co., Chicago, Ill.

Carborundum Paper and Cloth.
Carborundum Co., Niagara Falls, N. Y.

Cars. (Dump, Industrial, Logging and Mine.)
Austin Mfg. Co., Chicago, Ill.
Chase Fdry. & Mfg. Co., Columbus O
Curd, Geo. B., Cincinnati, Ohio
Electric Wheel Co., Quincy, Ill.
Georgia Car & Locomotive Co., Atlanta, Ga.
Hunt Co., C. W., Inc., West New Brighton, N. Y
Oliver Mfg. Co., Wm. J., Knoxville, Tenn.
Western Wheeled Scraper Co., Aurora, Ill.

Cars. (Passenger and Freight.) [See Railroad Equipment and Supplies.]

Car Wheels, Axles and Trucks.
Oliver Mfg. Co., Wm. J., Knoxville, Tenn.

Cast Iron Pipe. (See Pipe.) [Cast Iron.]

Castings. (Aluminum.)
Aluminum Company of America, Pittsburgh, Pa.

Castings. (Brass and Bronze.)
McKenna Bros. Brass Co., Pittsburgh Pa.
Triumph Electric Co., Cincinnati, O

Castings. (Gray Iron.)
Columbian Iron Works, Chattanooga, Tenn.
Georgia Car & Locomotive Co., Atlanta, Ga.
Glamorgan Pipe & Foundry Co., Lynchburg, Va.
Hull's Sons, D. F., Hagerstown, Md.
Lynchburg Foundry Co., Lynchburg, Va.
Phoenix Iron Works Co., Meadville, Pa.
U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J
Valk & Murdoch Iron Works, Charleston, S. C.
Westbrook Elevator Co., Danville, Va.

Castings. (Malleable Iron and Steel.)
Columbus Malleable Iron Co., Columbus, Ohio.
General Malleable Co., Warren, O.
Marion Malleable Iron Works, The, Marion, Ind.
Missouri Malleable Iron Co., East St. Louis, Ill.

Castings. (Steel.)
Crucible Steel Castings Co., Lansdowne, Pa.
Hoffman & Co., Inc., R. C., Baltimore, Md.
Phoenix Iron Works Co., Meadeville, Pa.
Riverside Steel Casting Co., Newark, N. J.

Ceilings (Metal.)
Edwards Manufacturing Co., Cincinnati, O.
Keighley Metal Ceil. & Mfg. Co. S., Pittsburgh, Pa.

Cement.
Clinchfield Portland Cem. Corp., Kingsport, Tenn
Dixie Portland Cement Co., Chattanooga, Tenn.
Hartranft Cement Co., Wm. G., Philadelphia, Pa.
Kirkpatrick Sand & Cement Co., Birmingham, Ala.
Kosmos Portland Cement Co., Inc., Louisville, Ky
Lehigh Portland Cement Co., Allentown, Pa.
Southern States Portland Cem. Co., Rockmart, Ga
Standard Portland Cement Co., Leeds, Ala.

Cement Machinery.
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Alsing Engineering Co., J. R., New York, N. Y
Power & Mining Machinery Co., Cudahy, Wis.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.

Chains (Dredge, Quarry, Steam Shovel.)
Weimer Chain & Iron Co., Lebanon, Pa.

Chemists. (Analytical and Consulting.)
Davis, Geo. C., Philadelphia, Pa.
Froehling & Robertson, Richmond, Va.
Hunt & Co., Robt. W., Chicago, Ill.
Little Inc., A. D., Boston, Mass.
Pittsburgh Testing Laborstory, Pittsburgh, Pa
Wiley & Co., Baltimore, Md.

Choride Accumulator.
Electric Storage Battery Co., The, Philadelphia Pa

Chucks.
Morse Twist Drill & Mch. Co., New Bedford, Mass

Cities and Towns. (Commercial and Industrial Opportunities.) [See Industrial, Agricultural and Commercial Opportunities.]

Clamps. (For Concrete Forms.)
Sterling Wheelbarrow Co., Milwaukee, Wis

Clayworking Machinery. [See Brick and Clayworking Mchy and Supplies.]

Cleansing Compound. (Floors, Etc)
India Alkali Works, Boston, Mass.

Clocks (Watchman.)
Watchman's Clock & Supply Co., New York, N. Y

Clutches. (Friction.)
Affiliated Manufacturers Co., Milwaukee, Wis.
Medart Patent Pulley Co., St. Louis, Mo.
Moore & White Co., The Philadelphia, Pa.

Coal.
Clinchfield Coal Corp. Dante, Va.
Clinchfield Fuel Co., Spartanburg, S. C.
Consolidation Coal Co., Inc., New York, N. Y.
Tennessee Coal, Iron & R. R. Co., B'mgh'm, Ala

Coal Cutters.
Jeffrey Mfg. Co., Columbus, O.

Coal Handling Machinery.
Bartlett & Snow Co., C. O., Cleveland, O
Guarantee Construction Co., New York, N. Y
Hayward Co., New York, N. Y.
Hunt Co., C. W., Inc., West New Brighton, N. Y.
Jeffrey Mfg. Co., Columbus, O.
Link-Belt Co., Nicetown (Philadelphia), Pa.
Weller Mfg. Co., Chicago, Ill.

Coal Tar and By-Products.
Barrett Mfg. Co., Philadelphia, Pa.

Coal Tipples.
American Bridge Co. of New York, N. Y.

Coke.
Tennessee Coal, Iron & R. R. Co., B'mgh'm, Ala

Cold Store Doors.
Brecht Co., The, St. Louis, Mo.

Colleges and Schools.
Rensselaer Polytechnic Institute, Troy, N. Y.

Colleges. (Technical.)
Rensselaer Polytechnic Institute, Troy, N. Y.

Columns. (Porch, Interior, Pergola.)
Nickerson Mfg. Co. Knoxville, Tenn.

Commission Merchants. (Export & Import.)
Duckett & Co., Inc., A. W., New York, N. Y.

Concrete Construction. (Reinforced.)
Berry-Fortune Construction Co., Eatonton, Ga
Cunningham Construction Co., Shreveport, La
Foster-Creighton-Gould Co., Nashville, Tenn.
Guarantee Construction Co., New York, N. Y.
Jeffrey Mfg. Co., Columbus, O.
Requarth Co., C. W., Charlotte, N. C.
Turner, C. A. P., Minneapolis, Minn.

Concrete Curb Protector. (Steel.)
Steel Protected Concrete Co., Philadelphia, Pa

Concrete Mixers. [See Mixers. (Concrete)]

Concrete Reinforcing Bars.
Carnegie Steel Co., Pittsburg, Pa.
Gulf States Steel Co., Birmingham, Ala.
Hoffman & Co. R. C., Baltimore, Md.
Jones & Laughlin Steel Co. Pittsburgh, Pa
Lackawanna Steel Co. Lackawanna, N. Y.
Laclede Steel Co., St. Louis, Mo.
Pardee Works, C., Perth Amboy, N. J.
Republic Iron & Steel Co., Youngstown, O.
Sweets Steel Co., Williamsport, Pa.

Concrete Reinforcing Bar Couplings.
Marion Malleable Iron Works, Marion, Ind

Concrete Reinforcing Wire and Wire Fabric
American Steel & Wire Co., Chicago, Ill.
Roebling's Sons Co., John A., Trenton, N. J.

Condensers.
Alberger Pump & Condenser Co., New York, N. Y
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Gresson-Morris Co., Philadelphia, Pa.
Dean Bros., Steam Pump Wks., Indianpolis, Ind.
Westinghouse Machine Co., Pittsburgh, Pa.
York Mfg Co. York, Pa.

Conductor Pipe.
Edwards Mfg. Co., Cincinnati, O.

Contractors. (Concrete.)
Berry-Fortune Construction Co., Eatonton, Ga

Contractors (Drainage)
Thompson & Moseley, Greensboro, N. C.

Contractors. (Hydro-Electric Developments.)
Requarth Co., C. W., Charlotte, N. C.

CLASSIFIED INDEX OF ADVERTISEMENTS.

Contractors. (Water Supply.)
Layne & Bowler Co., Houston, Tex.

Contractor's Machinery and Supplies. [See also Hoisting Machinery.]
American Clay Machinery Co., The, Bucyrus, Ohio.
Austin Mfg. Co., Chicago, Ill.
Byer- Mach. Co., The John F., Ravenna, O.
Curd, Geo. B., Cincinnati, O.
Flory Mfg. Co., S., Bangor, Pa.
Gyde Bros. Steel & Rail Co., Pittsburgh, Pa.
Marine Metal & Supply Co., New York, N. Y.
Milburn Co., Alex. N., Baltimore, Md.
Monighan Mch. Co., Chicago, Ill.
National Hoisting Engine Co., Harrison, N. J.
Oliver Mfg. Co., Wm. J., Knoxville, Tenn.
Sherwood, E. C., New York, N. Y.
Sterling Machinery Co., New York, N. Y.
Thaw & Williams, Cincinnati, O.

Conveying and Elevating Machinery.
Ambursen Co., (Tramway Department), New York, N. Y.
Bartlett & Snow Co., C. O., Cleveland, O.
Caldwell & Son Co., H. W., Chicago, Ill.
Flory Mfg. Co., S., Bangor, Pa.
Guarantee Construction Co., New York, N. Y
Hunt Co., C. W., Inc., West New Brighton, N. Y.
Jeffrey Mfg. Co., Columbus, O.
Lidgerwood Mfg. Co., New York, N. Y.
Link-Belt Co., Nicetown, (Philadelphia) Pa.
Mathews Gravity Carrier Co., Ellwood City, Pa.
McLanahan-Stone Mach. Co. Hollidaysburg, Pa.
Weller Mfg. Co., Chicago, Ill.

Cooperage Stock and Box Shook Machinery.
Gerlach Co., Peter, Cleveland, O.

Coppersmith.
McMillan Bros., Jacksonville, Fla.

Cordage.
Broderick & Bascom Rope Co., St. Louis, Mo.
Columbian Rope Co., Auburn, N. Y.
Waterbury Co., New York, N. Y.

Corn-Mill Machinery.
Raymond Bros. Impact. Pulv. Co., Chicago, Ill.
Starr Co., B. F., Baltimore, Md
Wolf Co., Chambersburg, Pa

Cotton Oil and Products.
American Cotton Oil Co., New York, N. Y.

Cotton Yarns. (Commission Merchants.)
Paulson, Linkroum & Co., New York, N. Y.

Cotton-Gin Machinery.
Carver Cotton Gin Co., East Bridgewater, Mass.
Continental Gin Co., Birmingham, Ala.
Gibbes Machinery Co., Inc., Columbia, S. C.
Murray Co., The, Atlanta, Ga

Cotton-Mill Machinery.
Draper Co., Hopedale, Mass.
Mason Machine Works., Taunton, Mass.
Saco-Lowell Shop, Boston, Mass.
Whitinsville Spin'g Ring Co., Whitinsville, Mass.

Cotton-Mill Supplies.
American Supply Co., Providence, R. I.
Whitinsville Spin'g Ring Co., Whitinsville, Mass.

Cottonseed-Oil Machinery.
Buckeye Iron & Brass Works, Dayton, O.
Burruss Engineering Co., Atlanta, Ga.
Cardwell Machine Co., Richmond, Va.
Carver Cotton Gin Co., East Bridgewater, Mass.
Continental Gin Co., Birmingham, Ala.
French Oil Mill Machinery Co., Piqua, O.
Murray Co., The, Atlanta, Ga.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.

Couplings.
American Spiral Pipe Works, Chicago, Ill.
Golden's Foundry & Machine Co., Columbus, Ga.
Wood's Sons Co., T. B., Chambersburg, Pa.

Couplings. (Car.)
Weimer Chain & Iron Co., Lebanon, Pa.

Couplings. (Hose, Air, Gas, Steam and Water.)
National Tube Co., Pittsburgh, Pa

Coverings. (Pipe, Boiler, etc.)
Johns-Manville Co., H. W., New York, N. Y.
Southern Asbestos Mfg. Co., Inc., Richmond, Va.

Cranes. (Locomotive.)
Ohio Locomotive Crane Co., Bucyrus, O.

Cranes. (Traveling, Hand, Power, Hydraulic.)
Lane Mfg. Co., Montpelier, Vt
Speidel, J. G., Reading, Pa

Crayons.
Georg a Talc Co., Asheville, N. C
Lowell Crayon Co., Lowell, Mass

Creosoting Equipment.
Casey-Hedges Co., Chattanooga, Tenn.
Struthers-Wells Co., Warren, Pa.
Walsh & Weidner Boiler Co., Chattanooga, Tenn.

Creosoting Works.
American Creosote Works, New Orleans, La.
Internat'l Creosot'g & Cons. Co., Galveston, Tex.
National Lumber & Creos. Co., Texarkana, Ark.
Southern Creosoting Co., Ltd., Slidell, La.
Southern Wood Preserving Co., Atlanta, Ga

Crossarms and Pins.
Western Electric Co., New York, N. Y

Crossarms. (Creosoted.)
American Creosote Wks., New Orleans, La.
Internat'l Creosoting & Cons. Co., Galveston, Tex.
National Lumber & Creosoting Co., Texarkana, Ark.
Southern Creosoting Co., Ltd., Slidell, La.
Southern Wood Preserving Co., Atlanta, Ga.

Crossings. [See Railroad Frogs and Switches.]

Crosstie Machine.
Standard Portable Saw Mill Co., New Orleans, La.

Crossties. (Creosoted.)
American Creosote Works, New Orleans, La.
Internat'l Creosot'g & Cons. Co., Galveston, Tex.
National Lumber & Creos. Co., Texarkana, Ark.
Southern Creosoting Co., Ltd., Slidell La.
Southern Wood Preserving Co., Atlanta, Ga.

Crushed Stone. (Road Concrete and Ballast.)
American Ballast Co., Knoxville, Tenn
Atlantic Stone Co., Atlanta, Ga.
Bald Mountain Quarry, Newson, N. C.
Chickamauga Quarry & Construction Co., Chattanooga, Tenn.
Kirkpatrick Sand & Cement Co., Birmingham, Ala.
Weston Brooker Quarry Co., Columbia, S. C.

Crushers. (Corn and Cob.)
Gruendler Pat. Crusher & Pulv. Co., St. Louis, Mo.
Jeffrey Mfg. Co., Columbus, O.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.

Crushers. (Rock.)
Austin Mfg. Co. Chicago, Ill.
Buchanan Co., Inc., C. G., New York, N. Y
Power & Mining Machinery Co., Cudahy, Wis.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
Universal Road Mchy. Co., Kingston, N. Y.
Western Wheeled Scraper Co., Aurora, Ill
Wheeling Mold & Fdry. Co., Wheeling, W Va

Crushing and Pulverizing Machinery.
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Alsing Engineering Co. J. R., New York, N. Y.
Austin Mfg Co. Chicago, Ill.
Bartlett & Snow Co., C. O., Cleveland, O.
Buchanan Co., Inc., C. G., New York, N. Y.
Gruendler Pat. Crusher & Pulv. Co., St. Louis, Mo.
Jeffrey Mfg. Co., Columbus, O.
McLahanan-Stone Mach. Co., Hollidaysburg, Pa
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
Stedman's Foundry & Machine Works, Aurora, Ind.
Western Wheeled Scraper Co., Aurora, Ill.
Wheeling Mold & Fdry. Co., Wheeling, W. Va.

Culvert Pipe. (Cast Iron.)
American Cast Iron Pipe Co., Birmingham, Ala
Clow & Sons, James B., Chicago, Ill.
Donaldson Iron Co., Emaus, Pa.
Glamorgan Pipe & Foundry Co., Lynchburg, Va.
Lynchburg Foundry Co., Lynchburg, Va.
Massillon Iron & Steel Co., Massillon, Ohio.
Standard Cast Iron Pipe & Foundry Co., Bristol, Pa.
Wood & Co., R. D., Philadelphia, Pa.

Culverts. (Corrugated Metal.)
American Sheet & Tin Plate Co., Pittsburgh, Pa.
Armco Culvert Publicity Bureau, Cincinnati, O.
Atlas Metal Works, Dallas Tex.
Canton Culvert and Silo Co., The, Canton, O.
Dixie Culvert & Metal Co., Atlanta, Ga.
Gallon Iron Works & Mfg. Co., The, Gallon, Ohio.
Harry Bros. Co., New Orleans, La.
Lone Star Culvert Co., Houston, Tex.
National Corrugated Culvert Mfg. Co., Warren, Pa.
Newport Culvert Co., Inc., Newport, Ky.
Salisbury Metal Culvert Co., Inc., Salisbury, N. C.
Tennessee Metal Culvert Co., Nashville, Tenn.
Virginia Metal & Culvert Co., Inc., Roanoke, Va.

Culverts. (Vitrified Pipe.)
Southern Sewer Pipe Co., Birmingham, Ala.
Stevens Sons Co., H., Macon, Ga.

Cupola Furnaces.
Paxson Co., J. W., Philadelphia, Pa.

Curb Protector. (Steel.)
Steel Protected Concrete Co., Philadelphia, Pa.

Cutter Grinders.
Vitrified Wheel Co., Westfield, Mass.

Cutting. (Oxy-Acetylene Process.)
Prest-O-Lite Co., Inc., The, Indianapolis, Ind.

Cuts. (Half Tone, Line, Etc.)
Alpha Photo Engraving Co., Balto, Md.

Dams. (Reinforced Concrete.)
Berry-Fortune Construction Co., Eatonton, Ga.

Derricks and Derrick Fittings.
Byers Mach. Co. The John F., Ravenna, O.
Hayward Co., The, New York, N. Y.
Monighan Machine Co., Chicago, Ill.

Designers and Illustrators. (Printed Matter.)
Alpha Photo Engraving Co., Baltimore, Md.

Disposal Plants. (Garbage Incinerators.)
Stacy-Bates Co., Minneapolis, Minn.

Ditching Machinery.
American Steel Dredge Co., Fort Wayne, Ind.
Bay City Dredge Works., Bay City, Mich.
Fairbanks Steam Shovel Co., Marion, O.
Hayward Co., The, New York, N. Y.
Marion Steam Shovel Co., Marion, O.
Monighan Machine Co., Chicago, Ill.
Thew Automatic Shovel Co., Lorain, Ohio.
Williams Co., The, G. H., Cleveland, O.

Doors. (Steel Rolling.)
Kinnear Mfg. Co., Columbus, O.
Van Harlingen, J. M., Atlanta, Ga

Doors. (Tin Clad.)
Victor Mfg. Co., Newburyport, Mass.

Draftsman.
Childrey Co., Richmond, Va.

Draftsmen's Supplies.
Weber & Co., F., Philadelphia Pa.

Dredge Chains.
Weimer Chain & Iron Co., Lebanon, Pa.

Dredges. [See Excavating Machinery.]

Drills. (Pneumatic) [See also Drills Rock and Mining.]

Drills. (Prospecting.)
Keystone Steam Well Mach. Co., Beaver Falls, Pa.

Drills. (Rock and Mining.)
Independent Pneumatic Tool Co., Chicago, Ill.
Jeffrey Mfg. Co., Columbus, O.
Wickes Bros., Jersey City, N. J

Drills. (Twist.)
McKenna Bros. Brass Co., Pittsburgh, Pa
Morse Twist Drill & Mch. Co., New Bedford, Mass.

Drive Well Points and Well Supplies.
National Tube Co., Pittsburgh, Pa.

Drop Forgings.
American Spiral Pipe Works, Chicago, Ill.

Drop Forging Machinery.
Bliss Co. E. W., Brooklyn, N. Y.

Dry Docks. (Builders of)
American Bridge Co. of New York, N. Y

Drying Machinery.
American Process Co., New York, N. Y.
Bailey- Lebby Co., The, Charleston, S. C.
Buffalo Forge Co., Buffalo, N. Y.
Conteseville, Boiler Works, Conteseville, Pa.
Cummer & Son Co., F. D., The, Cleveland, Ohio
Hersey Manufacturing Co., South Boston, Mass.
Ruggles-Coles Engineering Co., New York, N. Y.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.

Dry Kilns.
Buffalo Forge Co., Buffalo, N. Y.
Moore Dry Kiln Co., L., Jacksonville, Fla.

Dry Kiln Equipment.
Moore Dry Kiln Co., L., Jacksonville, Fla

Dumbwaiters. (Hand Power)
King, Wm. F., Brooklyn, N. Y.
McKenna Bros. Brass Co., Pittsburgh, Pa.
Speidel, J. G., Reading, Pa.

Dump Wagons and Wagon Gates
Troy Wagon Works Co., Troy, O.

Dust-Collecting System
Buffalo Forge Co., Buffalo, N. Y
King Co., F. E., Norfolk, Va.
South Atlantic Blow Pipe & Sheet Metal Co. Savannah, Ga.

Dynamite. (Industrial and Agricultural.)
Du Pont De Nemours Powder Co., E. I.
Keystone Nat'l Powder Co., Emporium, Pa.

Dynamos and Motors.
Assets Purchasing Co., Wheeling, W. Va.
General Electric Co., Schenectady, N. Y.
Pan Electric Mfg. Co., St. Louis, Mo.
Terry Steam Turbine Co., Hartford, Conn.
Triumph Electric Co., Cincinnati, O.
Western Electric Co., New York, N. Y

Eaves. (Trough.)
Edwards Mfg. Co., Cincinnati, O.

Ejectors. (Sewage.)
Lunkenheimer Co., The, Cincinnati, O.
Pacific Flush Tank Co., New York, N. Y.

Electric Machinery. (Dynamos, Generators, Motors, etc.)
Allis-Chalmers Manufacturing Co., Milwaukee, Wis.
American Elevator & Mch. Co., Louisville, Ky
Crocker-Wheeler Co., Ampere, N. J.
Engberg Electric & Mechanical Works, St. Joseph, Mich.
Fairbanks-Morse & Co., Atlanta, Ga.
General Electric Co., Schenectady, N. Y.
Heer Engine Co., Portsmouth, Ohio.
Lee Electric Co., Baltimore, Md.
Moore & Co., Edgar M. Pittsburg, Pa.
Pan Electric Mfg. Co., St. Louis, Mo.
Piedmont Electric Co., Asheville, N. C.
Robbins & Myers Co., Springfield, O.
Scheinert Co., R., Philadelphia, Pa.
Schroeder Electric Co., Evansville, Ind.
Sturtevant Co., B. F., Hyde Park Boston, Mass.
Triumph Electric Co., Cincinnati, O.
Wilson Mchy. Co., Harold B., St. Louis, Mo.

Electrical Contractors, Instruments and Supplies.
Crocker-Wheeler Co., Ampere, N. J.
Economy Fuse & Mfg. Co., Chicago, Ill.
General Electric Co., Schenectady, N. Y.
Hill & Co., Walter E., Baltimore, Md.
Lee Electric Co., Baltimore, Md.
Levy-Morton Co., Columbus, Ga.
Piedmont Electric Co., Asheville, N. C.
Robbins & Myers Co., Springfield, O.

Electric Light Plants. (Portable.)
Schroeder Electric Co., Evansville, Ind.

Electro-Magnet. [See Magnet Electro.]

Elevating, Conveying and Power Tranmission Machinery. [See also Conveying and Elevating Machinery and Power Transmission Mchy.]

Elevator

ELECTRIC.

American Electric Machine & Elevator Co., St. Louis, Mo
Atlas Machine Co., Louisville, Ky.
Curren Elevator Co., James H., Cincinnati, Ohio.
K. C. Elevator Mfg. Co., Kansas City, Mo.
Miller Elevator Mfg. Co., Wm. A., St. Louis, Mo.
Moffatt Machinery Mfg. Co., Charlotte, N. C.
Ohio Elevator & Machine Co., Columbus, Ohio.
Otis Elevator Co., New York, N. Y.
Speidel, J. G., Reading, Pa.
Warsaw Elevator Co., Baltimore, Md.
Westbrook Elevator Co., Danville, Va.

HAND AND BELT POWER.

American Electric Machine & Elevator Co., St. Louis, Mo.
Atlas Machine Co., Louisville, Ky.
Curren Elevator Co., James H., Cincinnati, O.
K. C. Elevator Mfg. Co., Kansas City, Mo.
Miller Elevator Mfg. Co., Wm. A., St. Louis, Mo.
Moffatt Machinery Mfg. Co., Charlotte, N. C.
Ohio Elevator & Machine Co., Columbus, O.
Otis Elevator Co., New York, N. Y.
Speidel, J. G., Reading, Pa.
Westbrook Elevator Co., Danville, Va.

HYDRAULIC.

American Electric Machine & Elevator Co., St. Louis, Mo.
Curren Elevator Co., James H., Cincinnati, O
K. C. Elevator Mfg. Co., Kansas City, Mo.
Moffatt Machinery Mfg. Co., Charlotte, N. C.
Ohio Elevator & Machine Co., Columbus, O.
Otis Elevator Co., New York, N. Y.

STEAM HYDRAULIC.

Ridgway & Son Co., The, Coatesville, Pa.

Elevators. (Automatic.)
Mathews Gravity Carrier Co., Ellwood City, Pa.

Elevators. (Portable for Warehouses, etc.)
Economy Engineering Co., Chicago, Ill.

Elevator Bolts.
Upson Nut Co., The, Cleveland, O

Elevator Buckets.
Caldwell & Son Co., H. W., Chicago, Ill.
Hendrick Mfg. Co., Carbondale, Pa.
Jeffrey Mfg. Co., Columbus, O.
Link-Belt Co., Nicetown (Philadelphia), Pa.

Elevator Enclosures and Cabs.
Bolles Iron & Wire Works, J. F., Detroit, Mich.
Cincinnati Mfg. Co., Cincinnati, O.
Dow Wire & Iron Works Louisville, Ky.
Dufur & Co., Baltimore, Md.
Dufur, Baggot & Co., Baltimore, Md.
Meyers Mfg. Co., The Fred J., Hamilton, O.
Ohio Elevator & Machine Co., The, Columbus, O.
Otis Elevator Co., New York, N. Y.

Elevator Rope. [See Wire Rope]

Elevator Safety Gates.
American Elec. Mch. & Elevator Co., St. Louis, Mo
Richmond Safety Gate Co., Richmond, Ind

Emery Wheels. [See Grinding Wheels.]

Employment Bureau.
Diamond Labor Agency, Chicago, Ill.

Engineers.

APPRAISAL.

Atlantic Engineering Co., Savannah, Ga.
Day & Zimmerman, Philadelphia, Pa.
Ferree Co., The H. G., Memphis, Tenn

BLAST FURNACES.

Smythe Co., The S. R., Pittsburgh, Pa.

BRIDGE.

Atlantic Engineering Co., Savannah, Ga
Greiner & Whitman, Baltimore, Md.

CHEMICAL.

Crosby, Walter W., Baltimore, Md.
Institute of Industrial Research, Washington, D. C.
Little, Inc., A. D., Boston, Mass.
Pittsburgh Testing Laboratory, Pittsburgh, Pa.

CIVIL

Arnold Co., The, Chicago, Ill.
Blair & Drane, Charlotte, N. C.
Brown & Clarkson, Washington, D. C.
Bryant, Glaucus A., Wilson, N. C
Ferree Co., H. G., Memphis, Tenn.
Hogue Engineering Ass'n., Charleston, W. Va.
Knowles, Morris, Pittsburgh, Pa.
Mole H. E., New York, N. Y.
Potter, Alexander, New York, N. Y.
Renshaw & Breece, Huntington, W. Va.
Rucker, B. Parks, Chattanooga, Tenn.
Shand Engineering Co., Columbia, S. C
Stevens, Harry, Washington, D. C.
Thompson & Moseley, Greensboro, N. C.
Waldo, W., Houston, Tex.
Walker Engineering Corp., Tampa, Fla
White Companies, J. G., New York, N. Y.

DAMS.

Quick, Alfred M., Baltimore, Md.
Requarth Co., C. W., Charlotte, N. C.
Spiker, William C., Atlanta, Ga.
White Companies, J. G., New York, N. Y.

DOCKS.

Greiner & Whitman, Baltimore, Md

DRAINAGE AND IRRIGATION.

Atlantic Engineering Co., Savannah, Ga.
Brown & Clarkson, Washington, D. C.
Bryant, Glaucus A., Wilson, N. C.
Dabney Engineering Co., Memphis, Tenn.
Ford, Bacon & Davis, New York, N. Y.
Knowles, Morris, Pittsburgh, Pa.
McCrady Bros. & Cheves, Inc., Charleston, S. C.
Perkins, Edmund T., Engineering Co., Chicago, Ill
Thompson & Moseley, Greensboro, N. C.
Walker Engineering Corp., Tampa, Fla

EFFICIENCY

Crosby, Walter W., Baltimore, Md.
Institute of Industrial Research, Washington, D. C
Little, Inc., A. D., Boston, Mass.
Quick, Alfred M., Baltimore, Md.

ELECTRICAL.

Arnold Co., The, Chicago, Ill.
Crocker-Wheeler Co., Ampere, N. J
Hogue Engineering Ass'n, Charleston, W. Va.
Keilholtz, P. O., Baltimore, Md.
Levy-Morton Co., Columbus, Ga.
Lide, Martin J., Birmingham, Ala.
Mole H. E. New York, N.Y.
Rucker, B. Parks, Charlotte, N. C.
Stone & Webster Engr. Corp., Boston, Mass.
Tucker & Laxton, Charlotte, N. C.
White, Gilbert C., Charlotte, N. C.

ELECTRIC LIGHT AND POWER PLANTS.

Dabney Engineering Co., Memphis, Tenn.
Ford, Bacon & Davis, New York, N. Y.
Graves Engineering Co., Inc., New York, N. Y
Keilholtz, P. O., Baltimore, Md.
Kelly, Thos. C., Cincinnati, Ohio.
Levy-Morton Co., Columbus, Ga.
Scofield Engineering Co., Philadelphia, Pa.
Stone & Webster Engr. Corp., Boston, Mass.
White Companies, J. G., New York, N. Y.
White, Gilbert C., Charlotte, N. C.

GAS.

Ford, Bacon & Davis, New York, N. Y
Renshaw & Breece, Huntington, W. Va.

GARBAGE DISPOSAL.

Baylis, John R., Birmingham, Ala.

GEOLOGICAL.

Brown & Clarkson, Washington, D. C.
Davis, Geo. C., Philadelphia, Pa.
Froehling & Robertson, Richmond, Va.
Grimsley, G. P., Martinsburg, W. Va.
Hogue Engineering Ass'n, Charleston, W. Va.
Institute of Industrial Research, Washington, D. C
Renshaw & Breece, Huntington, W. Va.

HYDRO-ELECTRIC

Atlantic Engineering Co., Savannah, Ga.
Baylis, John R., Birmingham, Ala.
Brown & Clarkson, Washington, D. C.
Greiner & Whitman, Baltimore, Md.
Howe, Charles F., Macon, Ga.
Knowles, Morris, Pittsburgh, Pa.
Quick, Alfred M., Baltimore, Md.
Requarth Co., C. W., Charlotte, N. C.
Rucker, B. Parks, Charlotte, N. C.
Scofield Engineering Co., Philadelphia, Pa
Sirrine, J. E., Greenville, S. C.
Spiker, William C., Atlanta, Ga.
Tucker & Laxton, Charlotte, N. C.
White Companies, J. G., New York, N. Y.

INDUSTRIAL PLANT.

Cunningham Construction Co., Shreveport, La.
Day & Zimmerman, Philadelphia, Pa.
Ferree Co., The H. G., Memphis, Tenn.
Gilman, Harry L., Boston, Mass.
Guarantee Construction Co., New York, N. Y.
Institute of Industrial Research, Washington, D. C
Kelly, Thos. C., Cincinnati, Ohio.
Kent, Inc., Robert Sayre, Brooklyn, N. Y
Little, Inc., A. D., Boston, Mass.
Rucker, B. Parks, Charlotte, N. C.
Scofield Engineering Co., Philadelphia, Pa
Shearer, C. E., Memphis, Tenn.
Stone & Webster Engr. Corp., Boston, Mass.
Stevens, Harry, Washington, D. C.
White Companies, J. G., New York, N. Y.

INSPECTIONS AND TESTS

Blair & Drane, Charlotte, N. C.
Crosby, Walter W., Baltimore, Md.
Froehling & Robertson, Richmond, Va.
Hill, Nicholas S., Jr., and S. F. Ferguson, New York, N. Y.
Hunt & Co., Robert W., Chicago, Ill.
Institute of Industrial Research, Washington, D. C
Pittsburgh Testing Laboratory, Pittsburgh, Pa

LANDSCAPE.

Berckmans Co., P. J., Augusta, Ga.
Blair & Drane, Charlotte, N. C.
Crosby, Walter W., Baltimore, Md.

LIGHTING

Ford, Bacon & Davis, New York, N. Y
McCrary & Co., J. B., Atlanta, Ga.
Rucker, B. Parks, Charlotte N. C.

CLASSIFIED INDEX OF ADVERTISEMENTS.

Engineers.

MECHANICAL.

Arnold Co., The, Chicago, Ill.
Kent, Inc., Robert Sayre, Brooklyn, N. Y.
Kelly, Thos. C., Cincinnati, Ohio.
Lide, Martin J., Birmingham, Ala.
McLundie, A. S., Chattanooga, Tenn.
Stevens, Harry, Washington, D. C.
Tucker & Laxton, Charlotte, N. C.

MINING.

Brown & Clarkson, Washington, D. C.
Grimsley, G. P. Martinsburg, W. Va
Hogue Engineering Ass'n, Charleston, W. Va
Jones, E. M., Chattanooga, Tenn.
Renshaw & Breece, Huntington, W. Va.

MUNICIPAL.

Anderson & Christie, Charlotte, N. C
Blair & Drane, Charlotte, N. C.
Brown & Clarkson, Washington, D. C.
Crosby, Walter W., Baltimore, Md.
Dabney Engineering Co., Memphis, Tenn.
Elrod, Henry E., Dallas, Texas.
Graves Engineering Co., Inc., New York, N Y
Greiner & Whitman, Baltimore, Md.
Hogue Engineering Ass'n, Charleston, W. Va.
Knowles, Morris, Pittsburgh, Pa.
McCrady Bros. & Cheves, Inc., Charleston, S. C.
McCrary Co., J. B., Atlanta, Ga
Pew, Arthur, Atlanta, Ga.
Shand Engineering Co., Columbia, S. C
Walker Engineering Corp., Tampa, Fla.
White, Gilbert C., Charlotte, N. C.

PAVING AND ROAD.

Anderson & Christie, Charlotte, N. C
Atlantic Engineering Co., Savannah, Ga.
Blair & Drane, Charlotte, N. C.
Bryant, Giaucus A., Wilson, N. C.
Crosby, Walter W., Baltimore, Md.
Elrod, Henry E., Dallas, Texas.
Institute of Industrial Research, Washington, D. C.
McCrady Bros. & Cheves, Inc., Charleston, S. C.
Shand Engineering Co., Columbia, S. C.
White, Gilbert C., Charlotte, N. C.

PUBLIC SERVICE PROPERTIES

Day & Zimmerman, Philadelphia, Pa.
Ferree Co., The H. G., Nemphis, Tenn.
Ford, Bacon & Davis, New York, N. Y.
Gilman, Harry L., Boston, Mass.
Graves Engineering Co., Inc., New York, N. Y.
Scofield Engineering Co., Philadelphia, Pa.
Stone & Webster Engr. Corp., Boston, Mass.
White Companies, J. G., New York, N. Y.

REINFORCED CONCRETE. (Bridges, Buildings, etc.)

Cunningham Construction Co., Shreveport, La.
Foster-Creighton-Gould Co., Nashville, Tenn.
Guarantee Construction Co., New York, N. Y.
Interstate Const. Co., Louisville, Ky.
Luten, Daniel B., Indianapolis, Ind.
Potter, Alexander, New York, N. Y.
Requarth Co., C. W., Charlotte N. C.
Savannah Eng. & Construction Co., Savannah, Ga.
Spiker, William C., Atlanta, Ga.
Tucker & Laxton, Charlotte, N. C.
White Companies, J. G., New York, N. Y.

RIVER AND HARBOR.

Gilman, Harry L., Boston, Mass.

SEWERAGE AND WATER-WORKS.

Anderson & Christie, Charlotte, N. C
Baylis, John R., Birmingham, Ala.
Blair & Drane, Charlotte, N. C.
Brown & Clarkson, Washington, D. C.
Bryant, Giaucus A., Wilson, N. C.
Dabney Engineering Co., Memphis, Tenn.
Ford, Bacon & Davis, New York, N. Y.
Graves Engineering Co., Inc., New York, N. Y.
Greiner & Whitman, Baltimore, Md.
Hill, Nicholas S., Jr., and S. F. Ferguson, New York, N. Y.
Knowles, Morris, Pittsburgh, Pa.
Mayer, J. H., Birmingham, Ala.
Miller, Hiram Allen, Boston, Mass.
Myers, E. W., Greensboro, N. C.
Pew, Arthur, Atlanta, Ga.
Potter, Alexander, New York, N. Y.
Quick, Alfred M., Baltimore, Md.
Stevens, Harry, Washington, D. C.
Walker Engineering Corp., Tampa, Fla.
White Companies, J. G., New York, N. Y.
White Gilbert C., Charlotte, N. C.

STEEL WORK AND ROLLING MILLS.

Smythe Co., The S. R., Pittsburgh Pa.

STRUCTURAL STEEL.

Foster-Creighton-Gould Co., Nashville, Tenn.
Shearer, C. E., Memphis, Tenn.
Spiker, Wm. C., Atlanta, Ga.
Renshaw & Breece, Huntington, W. Va.

THEATRE CONSTRUCTION.

Gallin, W. R. Hopkinsville, Ky.

Engines.

COMPRESSED AIR.

Dake Engine Co., Grand Haven, Mich.

GAS AND GASOLINE.

Affiliated Manufacturers Co., Milwaukee, Wis.
Allis-Chalmers Manufacturing Co., Milwaukee, Wis.
Cooper Co., C. & G., Mt. Vernon, Ohio.
Gibbes Machinery Co., Inc., Columbia, S. C.
Heer Engine Co., Portsmouth, Ohio.
Meitz, A., New York, N. Y.
Portsmouth Engine Co., Portsmouth, O.
Southern Engine & Boiler Works, Jackson, Tenn.
Van Duzen, Roys Co., The, Columbus, O.
Westinghouse Machine Co., The, Pittsburgh, Pa.

OIL.

Bolinders Co., New York, N Y.
Chicago Pneumatic Tool Co., Chicago, Ill.
Fairbanks-Morse & Co. Atlanta, Ga
Heer Engine Co., Portsmouth, Ohio.
Meitz, A., New York, N. Y.
Snow Steam Pump Works, The, New York, N. Y.

STEAM.

Allis-Chalmers Manufacturing Co., Milwaukee, Wis.
Ball Engine Co., Erie, Pa.
Buffalo Forge Co., Buffalo, N. Y.
Cameron & Barkley Co., Charleston, S. C.
Cooper Co., C. & G., Mt. Vernon, O.
Dake Engine Co., Grand Haven, Mich.
Engberg Electric & Mechanical Works, St. Joseph, Mich.
Gibbes Machinery Co., Inc., Columbus, S. C.
Griffith & Wedge Co., The, Zanesville, O.
Harris Bros. Co., Chicago, Ill.
Houston, Stanwood & Gamble Co., Cincinnati, O.
Jeffery-Griner Machinery Co., Philadelphia, Pa.
Laffel & Co., James, Springfield, O.
Lombard Iron Works, Augusta, Ga
Mecklenburg Iron Works, Charlotte, N. C.
Murray Iron Works Co., Burlington, Ia.
Phoenix Iron Works Co., Meadville, Pa.
Schofield Iron Works, Macon, Ga.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
Vilter Mfg. Co., Milwaukee, Wis.
Westinghouse Machine Co., Pittsburgh Pa.

Envelopes.

Young & Selden Co., Baltimore, Md.

Excavating Machinery.

American Clay Machinery Co., The, Bucyrus, Ohio.
American Steel Dredge Co., Fort Wayne, Ind.
Bay City Dredge Works, Bay City, Mich.
Byers Mach. Co., The John F., Ravenna, O.
Fairbanks Steam Shovel Co., Marion, O.
Hayward Co., New York, N. Y.
Jeffrey Mfg. Co., Columbus, O.
Keystone Drill & Equipment Co., Beaver Falls, Pa.
Lidgerwood Mfg. Co., New York, N. Y.
Marion Steam Shovel Co., Marion, O.
Monighan Machine Co., Chicago, Ill.
Morris Machine Works, Baldwinsville, N. Y.
National Hoisting Engine Co., Harrison, N. J.
Thew Automatic Shovel Co., Lorain, Ohio.
Williams Co., The G. H., Cleveland, O.

Excavators. (Trench.)

Bay City Dredge Works, Bay City, Mich.
Fairbanks Steam Shovel Co., Marion, O.
Hayward Co., The, New York, N. Y.
Monighan Machine Co., Chicago, Ill.

Excelsior Machinery.

Kline, Lewis T., Alpena, Mich.

Exhaust Heads.

American Spiral Pipe Works, Chicago, Ill.

Exhibits. (Machinery Builders' Equipment and Supplies.)

Builders' Exchange, Baltimore, Md.

Expansion Joints.

Badger & Sons Co., E. B., Boston, Mass

Expansion Joints. (Street and Road.)

Philip Carey Co., The, Cincinnati, Ohio.

Expanded Metal. [See Lath.]

Explosives.

Du Pont De Nemours Powder Co., E. I., Wilmington, Del.
Keystone Nat'l. Powder Co., Emportum, Pa.

Export Agents. (South America.)

Lutz, Friedr W, Richmond, Va.

Factory Sites. (Town and Railroad.) [See Industrial, Agricultural and Commercial Opportunities.]

Fans. (Electric.)

General Electric Co., Schenectady, N. Y.
Robbins & Myers Co., Springfield, O.

Fans. (Ventilating.) [See Blowers, Exhaust Fans.]

Fastener Driving Machine. (Corrugated Joint.)

Saranac Machine Co., Benton Harbor, Mich.

Feed-Water Heaters and Purifiers.

American Water Softener Co., Philadelphia, Pa.
Blake & Knowles Steam Pump Works, East Cambridge, Mass.
Murray Iron Works Co., Burlington, Ia.
National Pipe Bending Co., New Haven, Conn.
Scaife & Sons Co., Wm. B., Pittsburgh, Pa.
Stewart Heater Co., Buffalo, N. Y.

Feed-Water Heater and Purifier and Oil Separator Combined.

Blake & Knowles Steam Pump Works, East Cambridge, Mass.
Stewart Heater Co., Buffalo, N. Y.

Felt. (Building, Sheathing.)

Barrett Mfg. Co., Philadelphia, Pa.

Fencing. (Woven Wire Field.)

American Steel & Wire Co., Chicago, Ill.
Cyclone Fence Co., Waukegan, Ill.
Gulf States Steel Co., Birmingham, Ala,

Fencing, Entrance Gates. (Iron, Steel, Wire.)

American Steel & Wire Co., Chicago, Ill.
Bolles Iron & Wire Wks., J. E., Detroit, Mich.
Cyclone Fence Co., Waukegan, Ill.
Dow Wire & Iron Works, Louisville, Ky.
Dufur & Co., Baltimore, Md.
New Jersey Wire Cloth Co., Trenton, N. J.
Ohio Elevator & Mach. Co., The, Columbus, O.

Fertilizer Machy. [See also Phosphate Mchy.]

Stedman's Foundry & Machine Works, Aurora, Ind.
Valk & Murdoch Iron Works, Charleston, S. C.

Files.

Barnett Co., G. & H., Philadelphia, Pa.
Nicholson File Co., Providence, R. I.

Filters. (Water, for Domestic and Industrial Purposes.

American Water Softener Co., Philadelphia, Pa.
International Filter Co., Chicago, Ill.
New York Con. Jewell Fil. Co., New York, N. Y.

Fire Clay. [See Brick, Fire.]

Fire Door Fixtures.

Richmond Safety Gate Co., Richmond, Ind.
Victor Mfg. Co., Newburyport, Mass.

Fire Extinguishers.

Badger & Sons Co., E. B., Boston, Mass.

Fire Escapes.

Bolles Iron & Wire Works, J. E., Detroit, Mich.
Chesapeake Iron Works, Baltimore, Md.

Fire Places. (Brick and Tile.)

Hood Brick Co., B. Mifflin, Atlanta, Ga.

Fireproof Building Construction. [See Concrete Construction.]

Fireproof Building Material.

Bannon Pipe Co., P., Louisville, Ky.
Johns-Manville Co., H. W., New York, N. Y.

Fireproof Doors and Shutters.

Kinnear Mfg. Co., Columbus, O.
Richmond Safety Gate Co., Richmond, Ind.
Victor Mfg. Co., Newburyport, Pa.
Wagner's Sons Co., J. F., Louisville, Ky.

Fireproof Windows. [See Window Frames and Sashes (Fireproof.)]

Fittings. (Wire Rope.)

Waterbury Co., New York, N. Y.

Fireproofing. (Brick and Tile.)

Hood Brick Co., B. Mifflin, Atlanta, Ga.

Fixtures. (Electric Lighting.)

Hill & Co., Walter E., Baltimore, Md.

Flanges. (Iron and Steel.)

American Cast Iron Pipe Co., Birmingham, Ala.
American Pipe & Construction Co., Phila., Pa.
American Spiral Pipe Works, Chicago, Ill.
Dart Mfg. Co., E. M., Providence, R. I.
Glamorgan Pipe & Foundry Co., Lynchburg, Va.
National Tube Co., Pittsburgh, Pa.
U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J
Wood & Co., R. D., Philadelphia, Pa.

Flare Lamps.

Prest-O-Lite Co., Inc., The, Indianapolis, Ind.

Flexible Joints.

Moran Flex. Steam Joint Co., Inc., Louisville, Ky.

Flooring. (Creosoted Block.)

Republic Creosoting Co., Indianapolis Ind.

Flooring. (Hardwood, Maple, Oak.)

Whiting, William S., Asheville, N. C.

Flour and Grist Mill Machinery and Supplies.

Caldwell & Sons Co., H. W., Chicago, Ill.
Salem Foundry & Machine Works, Salem, Va.
Starr Co., B. F., Baltimore, Md.
Wolf Co., Chambersburg, Pa.

Flue Lining.

Owensboro Sewer Pipe Co., Owensboro, Ky.
Southern Sewer Pipe Co., Birmingham, Ala.

Forges.

Buffalo Forge Co., Buffalo, N. Y.

Forgings.

Weimer Chain & Iron Co., Lebanon, Pa

Foundations. (Waterproof.)

Requarth Co., C. W., Charlotte, N. C.

Foundry Equipment and Supplies.

Newport Sand Bank Co., Inc., Newport, Ky.
Paxson Co., J. W., Philadelphia, Pa.

Foundry Facings. (Talc and Soapstone.)

Georgia Talc Co., Asheville, N. C.

Foundry and Machine Shops.

Glamorgan Pipe & Foundry Co., Lynchburg, Va.
Goldens Foundry & Machine Wks., Columbus, Ga.
Grainger & Co., Louisville, Ky.
Lombard Iron Works, Augusta, Ga.
Titus, E. E., Petersburg, Va.
Valk & Murdoch Iron Works, Charleston, S. C.

Frogs. [See Railroad Frogs and Switches.]

Fuel Economizer.

Green Fuel Economizer Co., Matteawan, N. Y.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.

Fuel Oil.

Gulf Refining Co., Pittsburg, Pa.
U. S. Asphalt Refining Co., New York, N. Y.

Furnaces. (For Industrial Purposes.)

Smythe Co., The S. R., Pittsburgh, Pa.

Fuses. (Electrical.)

Economy Fuse & Mfg. Co., Chicago, Ill.

Fuse Shells. (Renewable.)

Economy Fuse & Mfg. Co., Chicago, Ill

Fuses, Bases and Fittings.

Johns-Manville Co., H. W., New York, N. Y.

Galvanized Steel and Iron.

American Sheet & Tin Plate Co., Pittsburgh, Pa.
La Belle Iron Works, Steubenville, O.
McCalla, Inc., Harold, Philadelphia, Pa.
Portsmouth Steel Co., Portsmouth, O.
Wood Iron & Steel Co., Alan, Philadelphia, Pa.
Youngstown Sheet & Tube Co., Youngstown O.

Garage and House. (Portable.)

Dixie Culvert & Metal Co., Atlanta, Ga
Steel Products Co., The, Savannah, Ga

Garbage Disposal Plants.

Stacy-Bates Co., Minneapolis, Minn

Gas Blowers. (Turbine.)

Terry Steam Turbine Co., Hartford, Conn.

Gas Engines. [See Engines, Gas.]

Gas Machines.

Kemp Mfg. Co., C. M. Baltimore, Md.
Milburn Co., Alex. N., Baltimore, Md.

Gas Plants.

Power & Mining Machinery Co., Cudahy, Wis.
Western Gas Construction Co., Ft. Wayne, Ind.

Gas Producers.

Smythe Co., The S. R., Pittsburgh, Pa.
Westinghouse Machine Co., Pittsburgh, Pa.
Wood & Co., R. D., Philadelphia, Pa.

Gasoline and Kerosene.

Gulf Refining Co., Pittsburg, Pa.

Gas and Steam Fitters' Tools.

Saunders' Sons, D., Yonkers, N. Y.

Gears.

Caldwell & Son Co., H. W., Chicago, Ill.
Cresson-Morris Co., Philadelphia, Pa.
James Mfg. Co., D. O., Chicago, Ill.
Jeffrey Mfg. Co., Columbus, O.

Generating Sets.

Engberg Electric & Mechanical Works, St. Joseph, Mich.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
Triumph Electric Co., Cincinnati, O.

Geologists.

Davis, Geo. C., Phila., Pa.
Froehling & Robertson, Richmond, Va.
Grimsley, G. P., Martinsburg, W. Va.

Glass. (Plate, etc.)

Binswanger & Co., Memphis, Tenn.

Governors. (Steam Engine.)

Pickering Governor Co., Portland, Conn.

Grain Elevator Supplies.

Caldwell & Sons Co., H. W., Chicago, Ill.
Jeffrey Mfg. Co., Columbus, O.
Link-Belt Co., Nicetown (Philadelphia), Pa.

Granite.

Southern Marble & Granite Co, Spartansburg, S. C.

Graphite.

Dixon Crucible Co., Joseph, Jersey City, N. J.

Grates and Grate Bars.

Huber Grate Bar & Stoking Co., Baltimore, Md.
Thomas Grate Bar Co., Birmingham, Ala.

Gravel.

Arundel Sand & Gravel Co., Baltimore, Md.

Gravel. (Roofing and Road)

American Ballast Co., Knoxville, Tenn.

Gravity Spiral Chutes.

Mathews Gravity Carrier Co., Elwood City, Pa.

Grease.

Albany Lubricating Co., New York, N. Y.

Grease Cups.

Albany Lubricating Co., New York, N. Y.
Lunkenheimer Co., The, Cincinnati, O.

Greases and Lubricating Compounds.

Albany Lubricating Co., New York, N. Y.
Galena Signal Oil Co., Franklin, Pa.
Robinson & Son Co., Wm. C., Baltimore, Md.

Grinders. (Gypsum, Limestone, etc.)

Stedman's Foundry & Machine Wks., Aurora, Ind.

Grinding Wheels.

Carborundum Co., Niagara Falls, N. Y.
Vitrified Wheel Co., Westfield, Mass.

Groovers.

Huther Bros. Saw Mfg. Co., Inc., Rochester, N. Y.

Gunpowder.

Du Pont De Nemours Powder Co., E. I., Wilmington, Del.
Keystone National Powder Co., Emporium, Pa

Hammers. (Steam, Power, Pneumatic

Independent Pneumatic Tool Co., Chicago Ill

Handle Machinery. [See Woodworking Mchy.

Hangers. [See Pulleys, Shafting and Hangers.]

Hay Tools.

Myers & Bro., F. E., Ashland, Ohio.

Heater. (Asphalt.)

Cummer & Son Co., F. D., The, Cleveland, Ohio.

Heating Apparatus, Engineers and Contractors.

Allen-Scales Engineering Co., Nashville, Tenn.
American Blower Co., Detroit, Mich.
Buffalo Steam Pump Co. Buffalo, N Y.
Kelly, Thos. C., Cincinnati, Ohio.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.

Hoisting Machinery.

Byers Machine Co., The John F. Ravenna, Ohio
Dake Engine Co., Grand Haven, Mich.
Flory Mfg. Co., S., Bangor, Pa.
Link-Belt Co., Nicetown, (Philadelphia), Pa.
Lidgerwood Mfg. Co., New York, N. Y.
Monighan Machine Co., Chicago, Ill.
Stroudsburg Engine Works, Stroudsburg, Pa

Hoists.

CHAIN.

Speidel, J. G., Reading, Pa.

ELECTRIC.

Lidgerwood Mfg. Co., New York, N. Y.
Monighan Mch. Co., Chicago, Ill.
National Hoisting Engine Co., Harrison, N. J.
Otis Elevator Co., New York, N. Y.
Patten Mfg. Co., Chattanooga, Tenn.

GASOLINE.

Patten Mfg. Co., Chattanooga, Tenn.

Hoists. (Steam.)

Byers Machine Co., John F., Ravenna, Ohio.
Flory Mfg. Co., S., Bangor, Pa.
Lidgerwood Mfg. Co., New York, N. Y.
Stroudsburg Engine Works, Stroudsburg, Pa.

Hollow Building Tile.

Killian Fireproofing & Brick Works, Killian, S. C
Oconee Brick & Tile Co., Milledgeville, Ga.

Hoops, Bands, etc. (Galvanized.)

McCalla, Inc., Harold, Philadelphia, Pa.

Hose.

Eureka Fire Hose Mfg. Co., New York, N. Y

Hotels.

Cawthon, The, Mobile, Ala.
Desoto Hotel, Tampa, Fla.
Highland Pines Inn, Southern Pines, N. C.
Hotel Essex, Boston, Mass.
Murphy Hotel, Richmond, Va
San Carlos, The, Pensacola, Fla.
St. Charles Hotel, New Orleans, La.

Hulls. (Steel, for Boats and Barges.)

American Bridge Co., of New York, N. Y.

Hydrants.

Bourbon Copper & Brass Wks. Co., Cincinnati, O
Columbian Iron Works, Chattanooga, Tenn.
Glamorgan Pipe & Foundry Co., Lynchburg, Va.
Myers & Bro., F. E., Ashland, O.
Wood & Co., R. D., Philadelphia, Pa.

Hydraulic Giants.

American Spiral Pipe Works, Chicago, Ill.

Hydrogen.

International Oxygen Co., New York, N. Y.

Hydrogen Generators.

International Oxygen Co., New York, N. N.

Hydraulic Rams.

Columbia Pump & Well Co., Washington, D. C.
Goulds Mfg. Co., Seneca Falls, N. Y.

Ice and Refrigerating Boxes

Brecht Co., The, St. Louis, Mo.

Icemaking Machinery & Supplies.

Brecht Co., The, St. Louis, Mo.
Frick Co., The, Waynesboro, Pa.
Huettman & Cramer Co., The, Detroit, Mich.
Johns-Manville Co., H. W., New York, N. Y.
Portsmouth Engine Co., Portsmouth, O.
Remington Machine Co., Wilmington, Del.
Vilter Mfg. Co., Milwaukee, Wis.
Vogt Machine Co., Henry, Louisville, Ky.
York Mfg. Co., York, Pa.

Incinerators.

Stacy-Bates Co., Minneapolis, Minn

Incorporaters. (Companies.)

Delaware Trust Co., Wilmington, Del.

Industrial, Agriculture and Commercial Opportunities.

CITIES AND TOWNS.

Newport News, Va., Old Dominion Land Co.
Norfolk, Va., Virginia Railway & Power, Co.
Petersburg, Va., Virginia Railway & Power Co.
Portsmouth, Va., Virginia Railway & Power Co.
Richmond, Va., Virginia Rwy. & Power Co.
Suffolk, Va., Virginia Railway & Power Co.

PUBLIC SERVICE CORPORATIONS.

Virginia Railway & Power Co., Richmond, Va.

RAILROADS.

Atlanta & W. Point R. R. Co., Atlanta, Ga.
Baltimore & Ohio Railroad, Baltimore, Md.
Carolina Clinchfield & O. Ry., Jackson City, Tenn.
Central of Georgia Ry. Co., Savannah, Ga.
Florida East Coast Ry., St. Augustine, Fla.
Illinois Central Railroad Co., Chicago, Ill.
Norfolk & Western Railway, Roanoke, Va.
Seaboard Air Line, Norfolk, Va.
Southern Railway System, Washington, D. C.

Industrial Track Work. [See Railways, Ind.]

Injectors.

Jenkins Bros., New York, N. Y.
Lunkenheimer Bros., The, Cincinnati, O.
Sellers & Co., Inc., Wm., Philadelphia, Pa.

Insulated Wires and Cables.
Safety Insulated Wire & Cable Co., New York, N. Y

Insulating Materials.
General Electric Co., Schenectady, N. Y.
Johns-Manville Co., H. W., New York, N. Y

Insurance.
Hartford Steam Boiler Inspector & Insurance Co., Hartford, Conn.
New First National Brnk, Columbus, O

Investment Securities.
Provident Savings Bank & Trust Co., Cincinnati, Ohio.

Iron.
Allegheny Steel Co., Pittsburgh, Pa.
La Belle Iron Works, Steubenville, O.
Republic Iron & Steel Co., Youngstown, O.
Tennessee Coal, Iron & R. R. Co., Birmingham, Ala.
Union Drawn Steel Co., Beaver Falls, Pa.
Wood Iron & Steel Co., Alan, Philadelphia, Pa

Irrigation Machinery.
Cameron Steam Pump Wks., A. S. New York, N. Y.

Kettles. (Steam Jacket.)
Badger & Sons Co., E. B., Boston, Mass

Key Seater. (Portable.)
Burr & Son, John T., Brooklyn, N. Y.

Labor Agency.
Diamond Labor Agency, Chicago, Ill.

Lace Leather.
Graton & Knight Mfg. Co., Worcester, Mass.

Lamps. (Arc and Incandescent.)
Boston-Economy Lamp Division, Danvers, Mass.
General Electric Co., Schenectady, N. Y
Lee Electric Co., Baltimore, Md.
Piedmont Electric Co., Asheville, N. C.

Lamps. (Carbon and Tungsten.)
Newman Electric Lamp Co., Cincinnati, O.

Lamp Posts. (Electric, Gas.)
Western Gas Construction Co., Ft. Wayne, Ind.

Lands. (Mineral, Timber, Farm, etc.) [See Industrial, Agricultural and Commercial Opportunities.]

Landscape Architects (See Engineers.) [Landscape]

Lathe Attachment. (Combination)
Garrett Attachment Co., Nashville, Tenn

Lathes. (Engine.)
Greaves, Klusman Tool Co., The, Cincinnati, O.

Lawn Furniture. (Wire.)
Bolles Iron & Wire Works, J. E., Detroit, Mich.
Dufur & Co., Baltimore, Md.
Dufur, Baggott & Co., Baltimore, Md.

Leadite.
Leadite Co., Inc., The, Philadelphia, Pa.

Lights. (Portable Acetylene.)
Milburn Co., Alex. N., Baltimore, Md.

Liquor Filters.
International Filter Co., Chicago, Ill.

Lithographers, Engravers.
Young & Selden Co., Baltimore, Md.

Lockers (Steel)
Bernstein Mfg. Co., Phila., Pa.
Keighley Metal Ceiling Mfg. Co., S., Pittsburgh, Pa.
Merritte & Co., Camden, N. J
Van Harlingen, J. M., Atlanta, Ga.

Locomotives.

INDUSTRIAL.

Baldwin Locomotive Wks., The, Philadelphia, Pa.
Climax Mfg. Co., Corry, Pa.
Curd, Geo. B., Cincinnati, O.
Davenport Locomotive Works, Davenport, Ia.
Jeffrey Mfg. Co., Columbus, O.
Lima Locomotive Corporation, Lima, O.
Porter Co., H. K., Pittsburgh, Pa.
Southern Iron & Equipment Co., Atlanta, Ga.

RAILWAY.

Baldwin Locomotive Wks., The, Philadelphia, Pa.
Lima Locomotive Corporation, Lima, O.
Porter Co., H. K., Pittsburgh, Pa.

Looms and Weaving Machinery.
Draper Co., Hopedale, Mass.
Mason Machine Works, Taunton, Mass.
Saco-Lowell Shops, Boston, Mass.

Loom Harness.
American Supply Co., Providence, R. I.

Lubricants.
Albany Lubricating Co., New York, N. Y.
Otis Elevator Co., New York, N. Y.

Lubricants. (Graphite.)
Dixon Crucible Co., Joseph, Jersey City, N. J.

Lumber.
Industrial Lumber Co., Elizabeth, La.

Lumber. (Creosote.)
American Creosote Works, New Orleans, La.

Lumber. (Heavy Construction, Pitch Pine, etc.)
Industrial Lumber Co., Elizabeth, La.
National Lumber & Creosot. Co., Texarkana, Ark.

Lumber Buggies.
Soule Steam Feed Works -Meridian, Miss.

Lumber Stackers.
Soule Steam Feed Works, Meridian, Miss

Machinery. (Special.)
Bliss Co., E. W., Brooklyn, N. Y.
Kline, Lewis T., Alpena, Mich.
Universal Machine Co., Baltimore, Md.

Machinery and Supplies. (New and Second-Hand Bargains.)
Assets Purchasing Co., Wheeling, W. Va.
Bailey & James Boiler & Mchy. Co., Joplin, Mo.
Boston Iron & Metal Co., Balto., Md.
Cleveland Belting & Machinery Co., Cleveland, O.
Dusats & Son, New York, N. Y.
Harris Bros. Co., Chicago, Ill.
Hyde Bros. Steel & Rail Co., Pittsburgh, Pa.
Jeffery-Griner Machinery Co., Philadelphia, Pa.
Lehman, Charles T., Birmingham, Ala.
Lodge & Shipley Mach. Tool Co., Cincinnati, O.
Marine Metal & Supply Co., New York, N. Y.
Moore & Co., Edgar M., Pittsburgh Pa.
New River Co., Macdonald, W. Va.
Nussbaum & Co., V. M., Fort Wayne, Ind.
Pfanmueller Engineering Co., Chicago, Ill.
Power Equipment Co., New York, N. Y.
Prentise Tool & Supply Co., New York, N. Y.
Randle Machinery Co., Cincinnati, O.
Read Co., Howard W., Philadelphia, Pa.
Sachsenmaier & Co., George, Philadelphia, Pa.
Samuel, Frank, Philadelphia, Pa.,
Seyfert's Sons, Inc., L. E., Philadelphia, Pa
Southern Mchry. Exchange, Jacksonville, Fla.
South Side Fdry. & Mch. Co., Charleston, W. Va.
Stearns, John C., Kansas City, Mo.
Stewart, Paul, Cincinnati, O.
Tampa Machinery Exchange, Tampa, Fla.
Toomey, Frank, Inc., Philadelphia, Pa.
Wilson Machy. Co., Harold, R., St. Louis, Mo.
Winterer Co., Herman L., Philadelphia, Pa.

Machine Tools.
Garrett Attachment Co., Nashville, Tenn.
Greaves, Klusman Tool Co., The, Cincinnati, O.

Machinists. (Engineers.)
Universal Machine Co., Baltimore, Md.

Magnesia Materials.
Johns-Manville Co., H. W., New York, N. Y

Magnetic Separators.
Buchanan & Co, Inc. C. G., New York, N Y
Paxson Co., J. W., Philadelphia, Pa.

Mail Chutes.
Cutler Mail Chute Co., Rochester, N. Y.

Mechanical Draft.
Buffalo Forge Co., Buffalo, N. Y.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.

Metal Ceilings. [See Ceilings, Metal.]

Metaline.
Metaline Co., Long Island City, N. Y.

Metal. (For Tanks, Culverts, Roofing, etc.)
Portsmouth Steel Co., Portsmouth, O.

Metal Culverts. [See Culverts.] (Corrugated Metal.)

Metal Shingles. [See Shingles.] (Metal.)

Metal Window Frames and Sash. [See Window Frames and Sash.] (Fireproof.)

Metal Work. [See Sheet Metal Work.]

Metal-Working Machinery. (Sheet.)
Bliss Co., E. W., Brooklyn, N. Y.

Meters. (Water.)
Alberger Pump & Condenser Co., New York, N. Y.

Meter Boxes, Couplings, Gauges. (Water.)
Clark Co., H. W., Mattoon, Ill.

Micrometers, Calipers, etc.
Starrett Co., L. S., Athol, Mass.

Milk Filters. (Liquor, Milk, etc.)
International Filter Co., Chicago, Ill.

Mill Engineers and Architects.
O'Briant, W. C., Memphis, Tenn.
Sirrine, J. E., Greenville, S. C.

Mill Supplies.
Bailey-Lebby Co., Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
Gainesville Iron Works, Gainesville, Ga.
Lombard Iron Works, Augusta, Ga.
Lunkenheimer Co., The, Cincinnati, O.
Mecklenburg Iron Works, Charlotte, N. C.
Salem Foundry & Machine Wks., Salem, Va.
Starr Co., B. F., Baltimore, Md.
Wolf Co., Chambersburg, Pa.

Mining Machinery. (Gold, Copper, Plate, etc.)
Bartlett & Snow Co., C. O., Cleveland, O.
Jeffrey Mfg. Co., Columbus, O.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.
Mecklenburg Iron Works, Charlotte, N. C.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.

Mixers. (Concrete.)
Standard Scale & Supply Co., Pittsburgh, Pa.
Van Duzens, Roys Co., The, Columbus, O.

Mixing Machinery.
Dunning, W. D., Syracuse, N. Y.

Mortar Colors.
Chattanooga Paint Co., Chattanooga, Tenn.

Motor Trucks. (Gasoline.)
White Co. The, Cleveland, O.

Motor Trucks (Second-hand.)
Mar-Del Mobile Co., Baltimore, Md.

Municipal Castings.
Clarksville Fdry. & Mach. Works., Clarksville Tenn.

Music Wire.
American Steel & Wire Co., Chicago, Ill.
Waterbury Co., The, New York, N. Y.

Nails. (Cut.)
La Belle Iron Works, Steubenville, O.

Nails and Spikes.
La Belle Iron Works, Steubenville, Ohio.
Republic Iron & Steel Co., Youngstown, O.
Youngstown Sheet & Tube Co., Youngstown, O.

Nuts. [See Bolts, Nuts, Rivets, etc.]

Office Furniture (Steel)
Merritte & Co., Camden, N. J.

Oil. (Creosote.)
Barrett Mfg. Co., Philadelphia, Pa.

Oils. (Lubricating, Etc.)
Albany Lubricating Co., New York, N. Y.
Galena Signal Oil Co., Franklin, Pa.
Gulf Refining Co., Pittsburgh, Pa.
Robinson & Son Co., Wm. C., Baltimore, Md.

Oil Cans.
Wall Mfg. Supply Co., P., Allegheny, Pa.

Oil Engines. [See Engines (Oil).]

Oil Separators.
Stewart Heater Co., Buffalo, N. Y.

Oil Well Machinery.
Keystone Steam Well Mach. Co., Beaver Falls, Pa.
Williams Bros., Ithaca, N. Y.

Oil Well Tubing and Casing.
Byers Co., A. M., Pittsburgh, Pa.

Ore Handling Machinery. [See Coal Handling Machinery.]

Ornamental Iron Works.
Bolles Iron & Wire Wks., J. E, Detroit, Mich.
Chesapeake Iron Works, Baltimore, Md.
Cincinnati Mfg. Co., Cincinnati, O.
Dow Wire & Iron Works, Louisville, Ky.
Ohio Elevator & Mach. Co., The, Columbus, O.
Schrieber & Sons Co., The L., Cincinnati, O.
Snead Architectural Iron Works, Louisville, Ky.

Oxygen.
International Oxygen Co., New York, N. Y.

Oxygen Generators.
International Oxygen Co., New York, N. Y.

Oxy-Acetylene Welding and Cutting Outfit and Supplies.
International Oxygen Co., New York, N. Y.
Milburn Co., Alex. N., Baltimore, Md.

Packing. (Asbestoes, Metallic, Rubber, Leather, etc.)
Graton & Knight Mfg. Co., Worcester, Mass.
Jenkins Bros., New York, N. Y.
Johns-Manville Co., H. W., New York, N. Y.
Power Specialty Co. New York, N. Y.
United Lead Co., New York, N. Y

Packing. (Lead Wool.)
United Lead Co., New York, N. Y.

Paint. (Cement Floors, Masonry, Stucco, etc.)
Cheesman & Elliott, New York, N. Y.

Paint. (Metal Surfaces.)
Cheesman & Elliott, New York, N. Y
Dixon Crucible Co., Joseph, Jersey City, N. J.

Paint. (Roofing, Building, etc.)
Cameron & Barkley Co., Charleston, S. C.
Chattanooga Paint Co., Chattanooga, Tenn.
Cheesman & Elliot, New York, N. Y.

Paper. (Roofing, Building, Sheating, etc.)
Barrett Mfg. Co., Philadelphia, Pa.
Cameron & Barkley Co., Charleston, S. C.

Partitions. (Wooden Rolling.)
Van Harlingen, J. M., Atlanta, Ga.

Patents and Inventions.
Russell Machine Co., F. K., Dallas, Tex.

Patent Attorneys.
Brown, Eugene C., Washington, D. C.
Chandlee & Chandlee, Washington, D. C.
Coleman, Watson E., Washington, D. C.
Duffie & Co., John S., Washington, D. C.
Evans & Co., Victor J., Washington, D. C.
FitzGerald & Co., W. T., Washington, D. C.
Hodges, Vernon E., Washington, D. C.
Jenner, Herbert, Washington, D. C.
Lacey, R. S. & A. B., Washington, D. C.
McLandie, A. S., Chattanooga, Tenn.
Parker, C. L., Washington, D. C.

Pavement Filler.
Barrett Mfg. Co., Philadelphia, Pa.

Paving Blocks. (Creosoted.)
International Creosoting & Construction Co., Galveston, Tex.
National Lumber & Creosoting Co., Texarkana, Ark.
Republic Creosoting Co. Indianapolis, Ind.
Southern Creosoting Co., Ltd., Slidell, La.
Southern Wood Preserving Co., Atlanta, Ga.
U. S. Wood Preserving Co., New York, N. Y.
Wyckoff Pipe & Creosoting Co., Inc., The, New York, N. Y.

Paving Blocks. (Granite.)
Southern Marble & Granite Co., The, Spartansburg, S. C.

Paving Brick.
Adamantine Clay Products Co., North Mountain, W. Va.
Carlyle Paving Brick Co., Portsmouth, O.
Copeland-Inglis Shale Brick Co., Birm'gh'm, Ala.
Dunn Wire-Cut-Lug Brick Co., Conneaut, Ohio
Southern Clay Mfg. Co., Chattanooga, Tenn.
Standard Brick Co., Macon, Ga.

Perforated Metal.
Caldwell & Son, H. W., Chicago, Ill.
Erdle Perforating Co., Rochester, N. Y.
Hendricks Mfg. Co., The, Carbondale, Pa.
Manhattan Perforated Metal Co., New York, N. Y.
Mundt & Sons, Charles, Jersey City, N. J.

Petroleum Refiners.
Gulf Refining Co., Pittsburg, Pa.
Standard Oil Co., Inc., Newark, N. J.

Phosphate Machinery.
Aleing Engineering Co., J. R., New York, N. Y.
American Process Co., New York, N. Y.
Bailey-Lebby Co., The, Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
Link Belt Co., Nicetown (Philadelphia), Pa.
McLannahan-Stone Mach. Co., Hollidaysburg, Pa.
Raymond Impact Pulv. Co., Chicago, Ill.
Valk & Murdoch Iron Works, Charleston, S. C.

Pig Iron.
La Belle Iron Works, Steubenville, O.
Republic Iron & Steel Co., Youngstown, O.
Tennessee Coal, Iron & R. R. Co., B'mgh'm, Ala.

Pile Drivers.
Vulcan Iron Works, Chicago, Ill.

Pile Driving and Wharf Building.
Murray & Co., Inc., W. D., Norfolk, Va.

Piling. (Creosoted.)
American Creosote Works, New Orleans, La.
Intern'l Creosoting & Const. Co., Galveston, Tex
Southern Creosoting Co., Ltd., Slidell, La.

Pillow Blocks.
Golden's Foundry & Machine Co., Columbus, Ga.
Medart Patent Pulley Co., St. Louis, Mo.

Pipe.
Allegheny Steel Co., Pittsburgh, Pa.
La Belle Iron Works, Steubenville, Ohio.
National Tube Co., Pittsburgh, Pa.
Youngstown Sheet & Tube Co., Youngstown, O.

Pipe. (Cast Iron.)
American Cast Iron Pipe Co., Birmingham, Ala.
American Pipe & Construction Co., Phila., Pa.
Clow & Sons, James B., Chicago, Ill.
Donaldson Iron Co., Emaus, Pa.
Glamorgan Pipe & Foundry Co., Lynchburg, Va.
Greenspon's Sons Iron & Steel Co., Jos., St. Louis, Mo.
Lynchburg Foundry Co., Lynchburg, Va.
Massillon Iron & Steel Co., Massillon, O.
Standard Cast Iron Pipe & Fdry. Co., Bristol, Pa.
U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J
Warren Fdry. & Mach. Co., New York, N. Y.
Wood & Co., R. D., Philadelphia, Pa.

Pipe. (Coil.)
Frick Co., The, Waynesboro, Pa.
National Pipe Bending Co., New Haven, Conn.
York Mfg. Co., York, Pa.

Pipe. (Corrugated Culvert.) [See Culvert (Corrugated Metal.)]

Pipe (Lead)
United Lead Co., New York, N. Y.

Pipe. (Riveted.)
Keeler Co., E., Williamsport, Pa.

Pipe. (Second Hand.)
Eagle Pipe Supply Co., New York, N. Y.
Marine Metal & Supply Co., New York, N. Y

Pipe. (Spiral Riveted.)
American Spiral Pipe Works, Chicago, Ill.

Pipe. (Spiral Steel.)
Standard Spiral Pipe Works, Chicago, Ill.

Pipe. (Sewer, Vitrified.) [See Sewer Pipe, Vitrified.]

Pipe. (Wood.)
Wyckoff & Son Co., A., Elmira, N. Y.

Pipe. (Wrought Iron.)
Byers Co., A. M., Pittsburgh, Pa.
Youngstown Sheet & Tube Co., Youngstown O.

Pipe Bends.
Pittsburgh Valve, Fdry. & Const. Co., Pittsburgh Pa.

Pipe Covering. (Steam.)
Chesapeake Roofing & Pipe Covering Co., Baltimore, Md.
Southern Asbestos Mfg. Co., Inc., Richmond, Va
Wyckoff & Son Co., A., Elmira, N. Y.

Pipe Cutting and Threading Machinery.
Saunders' Sons, D., Yonkers, N. Y.

Pipe Fittings.
American Cast Iron Pipe Co., Birmingham, Ala
Lunkenheimer Co., The, Cincinnati, O.
Pittsburgh Valve, Fdry. and Const. Co., Pittsburgh Pa.
Warren Fdry. & Mach. Co., New York, N. Y.
York Mfg. Co., York, Pa.

Pipe Jointing. (Gas and Water Main.)
Leadite Co., Inc., The, Philadelphia, Pa.
United Lead Co., New York, N. Y.

Pipe Unions and Joints.
Dart Mfg. Co., E. M., Providence, R. I.
National Tube Co., Pittsburgh, Pa.

Pipe Wrenches and Cutters.
Saunders' Sons, D., Yonkers, N. Y.

Piping System. (Designed and Installed.)
Pittsburgh Valve, Foundry & Construction Co., Pittsburgh, Pa.

Pitch.
Barrett Mfg. Co., Philadelphia, Pa

Plaster Machinery.
Bartlett & Snow Co., C. O., Cleveland, O.

Plates.
Allegheny Steel Co., Pittsburgh, Pa.
Cincinnati Iron & Steel Co., Cincinnati, O.
Wood Iron & Steel Co., Alan, Philadelphia, Pa.

Pneumatic Tools. [See Tools—Pneumatic.]

Poles. (Creosoted.)
American Creosote Works, New Orleans, La.
Internat'l Creosoting & Cons. Co., Galveston, Tex
National Lumber & Creos. Co., Texarkana, Ark.
Southern Creosoting Co., Ltd. Slidell, La.
Southern Wood Preserving Co., Atlanta, Ga.

Polishing Machinery. (Wheels and Blocks.)
Carborundum Co., Niagara Falls, N. Y.
Vitrified Wheel Co., Westfield, Mass.

Power Plants. (Steam and Electric.)
Allen-Scales Engineering Co., Nashville, Tenn
Assets Purchasing Co., Wheeling, W. Va.
Gibbes Machinery Co., Inc., Columbia, S. C.

Power Transmission Machinery.
Bailey-Lebby Co., Charleston, S. C.
Caldwell & Son Co., H. W., Chicago, Ill.
Cresson-Morris Co., Philadelphia, Pa.
Golden's Foundry & Machine Co., Columbus, Ga.
Jeffrey Mfg. Co., Columbus, O.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Lane Mfg. Co., Montpelier, Vt.
Link-Belt Co., Nicetown (Philadelphia), Pa.
Medart Patent Pulley Co., St. Louis, Mo.
Schofield Iron Works, Macon, Ga.
Smith-Courtney Co., Richmond, Va.
Wolf Co., The, Chambersburg, Pa.
Wood's Sons, T. B., Chambersburg, Pa

Presses. (Bailing, Cottonseed Oil, etc. Hydraulic and Power.)
Boomer & Boschert Press Co., Syracuse, N. Y.
Cardwell Machine Co., Richmond, Va.
Continental Gin Co., Birmingham, Ala.
French Oil Mill Mchry. Co., The, Piqua, Ohio.
Murray Co., The, Atlanta, Ga.
Saco-Lowell Shops, Boston, Mass.

Presses. (Stamping.)
Bliss Co., E. W., Brooklyn, N. Y.

Printers. (Book, Catalog, Job, etc.)
Fleet-McGinley Co., Baltimore, Md.

Promoters.
Electric Bond & Share Co., New York

Pulleys. (Friction Clutch.)
Caldwell & Son Co., H. W., Chicago, Ill.
Cresson-Morris Co., Philadelphia, Pa.
Medart Patent Pulley Co., St. Louis, Mo.
Moore & White Co., The, Philadelphia, Pa
Wood's Sons Co., T. B., Chambersburg, Pa.

Pulleys. (Steel Rim.)
Medart Patent Pulley Co., St. Louis, Mo.

Pulleys. (Wood Split.)
Caldwell & Son Co., H. W., Chicago, Ill.
Lane Mfg. Co., Montpelier, Vt.
Medart Patent Pulley Co., St. Louis, Mo.
Reeves Pulley Co., Columbus, Ind.
Saginaw Mfg. Co., Saginaw, Mich.
Salem Foundry & Machine Wks., Salem, Va.

Pulleys, Shafting and Hangers.
Caldwell & Son Co., H. W., Chicago, Ill.
Cresson-Morris Co., Philadelphia, Pa.
Golden's Foundry & Mach. Co. Columbus, Ga
Jeffrey Mfg. Co., Columbus, O.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Lane Mfg. Co., Montpelier, Vt.
Link-Belt Co., Nicetown (Philadelphia), Pa.
Medart Patent Pulley Co., St. Louis, Mo.
Wood's Sons Co., T. B., Chambersburg, Pa.

CLASSIFIED INDEX OF ADVERTISEMENTS.

Pulverizers.
Alsing Engineering Co., J. R., New York, N. Y.
Austin Mfg. Co., Chicago, Ill.
Gruendler Pat. Crusher & Pulv. Co., St. Louis, Missouri.
Jeffrey Mfg. Co., Columbus, O.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.
Raymond Bros., Impact Pulv. Co., Chicago, Ill.
Stedman's Foundry & Machine Wks., Aurora, Ind
Western Wheeled Scraper Co., Aurora, Ill.

Pumping Machinery.
Affiliated Manufacturers Co., Milwaukee, Wis.
Alberger Pump & Condenser Co., New York, N. Y.
Cameron Steam Pump Wks., A. S. New York, N. Y.
Cook, A. D., Lawrenceburg, Ind.
Dean Bros, Steam Pump Wks., Indianapolis, Ind.
Deane Steam Pump Co., Holyoke, Mass.
Erie Pump & Equipment Co., Erie, Pa.
Goulds Mfg. Co., Seneca Falls, N. Y.
Holland Machine Co., New York, N. Y.
Keystone Pump & Well Engine Co., Beaver Falls, Pa.
Moffatt Machinery Mfg. Co., Charlotte, N. C.
Morris Machine Works, Baldwinsville, N. Y.
Myers & Bros., F. E., Ashland, O.
Wood & Co., R. D., Philadelphia, Pa.
Worthington, Henry R., Harrison, N. J.

Pumps. (Air.)
Blakeslee Mfg. Co., Du Quoin, Ill.

Pumps. (Boiler Feed.)
Alberger Pump & Condenser Co., New York, N. Y.
Blakeslee Mfg. Co., Du Quoin, Ill.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
Jeanesville Iron Works Co., Hazleton, Pa.
Moffatt Machinery Mfg. Co., Charlotte, N. C.
Murray Iron Works Co., Burlington, Ia.
Myers & Bros., F. E., Ashland, O.

Pumps. (Centrifugal.)
Alberger Pump & Condenser Co., New York, N. Y.
Buffalo Steam Pump Co., Buffalo, N. Y.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Erie Pump & Equipment Co., Erie, Pa.
Holland Machine Co., New York, N. Y.
Jeanesville Iron Works Co., Hazleton, Pa.
Morris Machine Works, Baldwinsville, N. Y
Pacific Flush Tank Co., New York, N. Y.
Wood & Co., R. D., Philadelphia, Pa.
Worthington, Henry R., Harrison, N. J.

Pumps. (Deep Well.)
Cameron Steam Pump Wks., A. S., New York, N. Y.
Goulds Mfg. Co., Seneca Falls, N. Y.
Holland Machine Co., New York, N. Y.
Keystone Pump & Well Engine Co., Beaver Falls, Pa.
Layne & Bowler Co., Houston, Tex.

Pumps (Dredging.)
Buffalo Steam Pump Works, Buffalo N. Y.
Dean Bros, Steam Pump Works, Indianapolis, Ind.
Erie Pump & Equipment Co., Erie, Pa.
Goulds Mfg. Co., Seneca Falls, N. Y.
Holland Mch. Co., New York, N. Y.
Morris Machine Works, Baldwinsville, N. Y
Wood & Co., R. D. Phila., Pa.

Pumps. (Hydraulic.)
Buffalo Steam Pump Co., Buffalo, N. Y.
Cameron Steam Pump Wks., A. S., New York, N. Y
Cardwell Machine Co., Richmond, Va.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
Erie Pump & Equipment Co., Erie, Pa.
French Oil Mill Mchry. Co., The, Piqua, O.
Holland Mch. Co., New York, N. Y

Pumps. (Oil and Gasoline.)
Keystone Boiler & Fdry. Co., Columbia, Pa

Pumps. (Steam.)
Alberger Pump & Condenser Co., New York, N. Y.
Blake & Knowles Steam Pump Works, East Cambridge, Mass.
Blakeslee Mfg. Co., Du Quoin, Ill.
Buffalo Steam Pump Co., Buffalo, N. Y.
Cameron Steam Pump Wks., A. S., New York, N. Y.
Cameron & Barkley Co., Charleston, S. C.
Clayton Air Compressor Works, Cambridge, Mass.
Cook, A. D., Lawrenceburg, Ind.
Dean Bros, Steam Pump Wks., Indianapolis, Ind.
Deane Steam Pump Co., Holyoke, Mass.
Fairbanks-Morse & Co., Atlanta, Ga.
Keystone Pump & Well Engine Co., Beaver Falls, Pa.
Murray Iron Works, Co., Burlington, Ia.
Scranton Pump Co., Scranton, Pa.
Snow Steam Pump Works, The, New York, N. Y.
Worthington, Henry R., Harrison, N. J.

Pumps. (Trench.)
Affiliated Manufacturers Co., Milwaukee, Wis.

Pumps. (Turbine Driven.)
Sturtevant Co., B. F., Hyde Park, Boston, Mass.

Pumps. (Vacuum.)
Cameron Steam Pump Wks., A. S., New York, N. Y.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.

Pumps. (Water-works.)
Goulds Mfg. Co., Seneca Falls, N. Y.
Holland Mch. Co., New York, N. Y

Pump Leathers.
Graton & Knight Mfg. Co., Worcester, Mass

Punching and Shearing Machinery
Bliss Co., E. W., Brooklyn, N.Y.

Purchasing Agents.
U. S. Purchasing Corporation, New York, N. Y

Racks (For Pattern Storage.)
Merritte & Co, Camden, N. J.

Railroads. [See Industrial, Agricultural and Commercial Opportunities.]

Railroad Equipment and Supplies. (New and Second-hand.)
American Frog & Switch Co., Hamilton, O.
Bailey-Lebby Co., The, Charleston, S. C.
Birmingham Rail & Loco. Co., Birmingham, Ala.
Cincinnati Frog & Switch Co., Cincinnati, O.
Curd, Geo. B., Cincinnati, O.
Fairbanks-Morse & Co., Atlanta, Ga.
Foster Co., L. B., Pittsburgh, Pa.
Georgia Car & Locomotive Co., Atlanta, Ga
Hirsch Rolling Mill Co., St. Louis, Mo.
Hoffman & Co., Inc., R. C., Baltimore, Md.
Hyde, Chas., Pittsburgh, Pa.
Kilby Frog & Switch Co., Birmingham, Ala
Macleary, J. H., Suffolk, Va.
National Steel Rail Co., St. Louis, Mo.
Newhall Eng. Co., Geo. M., Philadelphia, Pa.
Read Co., Howard W., Philadelphia, Pa.
Robinson & Orr, Pittsburgh, Pa.
Sherwood, E. C., New York, N. Y
Southern Iron & Equipment Co., Atlanta, Ga
Steel Rail Supply Co., The, New York, N. Y.
Thaw & Williams, Cincinnati, Ohio.
United States Rail Co., Cumberland, Md.
Weir Frog Co., Cincinnati, O.
Wilson & Co., E. H., Philadelphia, Pa.
Wilson Mach. Co., Harold R., St. Louis, Mo.
Zelnicker Supply Co., Walter A., St. Louis, Mo

Railroad Frogs & Switches.
American Frog & Switch Co., Hamilton, O.
Cincinnati Frog & Switch Co., Cincinnati, O.
Conley Frog & Switch Co, Memphis, Tenn.
Kilby Frog & Switch Co., Birmingham, Ala.
Newhall Engineering Co., Geo. M., Philadelphia, Pa.
Robinson & Orr, Pittsburgh, Pa.
Sweet's Steel Co., Williamsport, Pa.
Weir Frog Co., Cincinnati, O

Rails. (Steel.)
Foster Co., L. B., Pittsburgh, Pa.
Franks, J. E., Atlanta, Ga.
Gulf States Steel Co., Birmingham, Ala.
Hirsch Rolling Mill Co., St. Louis, Mo.
Hoffman & Co., Inc., R. C., Baltimore, Md.
Hyde Bros. Steel & Rail Co., Pittsburgh, Pa.
Hyde, Chas., Pittsburgh, Pa.
Lackawanna Steel Co., Lackawanna, N. Y.
Levis & Co., Henry, Philadelphia, Pa
Macleary, J. H., Suffolk, Va.
National Steel Rail Co., St. Louis, Mo.
Newhall Eng. Co., Geo. M., Philadelphia, Pa.
Republic Iron & Steel Co., Youngstown, O.
Robinson & Orr, Pittsburgh, Pa.
Sherwood, E. C., New York, N. Y.
Southern Iron & Equipment Co., Atlanta, Ga.
Steel Rail Supply Co., The, New York, N. Y.
Sweet's Steel Co., Williamsport, Pa.
Tennessee Coal, Iron & R. R. Co., B'mgh'm, Ala.
United States Rail Co., Cumberland, Md.
Wilson & Co., E. H. Philadelphia, Pa.

Rail Braces, Crossings, etc. [See R. R. Frogs and Switches.]

Railings and Grilles. (Brass.)
Newman Mfg. Co., Cincinnati, O.

Railways. (Industrial.)
Chase Fdry. & Mfg. Co., Columbus, O.
Cincinnati Frog & Switch Co., Cincinnati, O.
Hunt Co., Inc., C. W., West New Brighton, N. Y.
Link-Belt Co., Nicetown (Philadelphia), Pa.

Rams. (Hydraulic.) [See Hydraulic Ram.]

Reamers.
Morse Twist Drill & Mch. Co., New Bedford, Mass

Reeds.
American Supply Co., Providence, R. I.

Refrigerating Machinery and Apparatus.
Huetteman & Cramer Co., The, Detroit, Mich
Portsmouth Engine Co., Portsmouth, O.
Remington Machine Co., Wilmington, Del.
Vilter Mfg. Co., Milwaukee, Wis.
Vogt Machine Co., Henry, Louisville, Ky.
York Mfg. Co., York, Pa.

Reinforcing Bars. [See Concrete Reinforcing Bars.]

Riveters. (Pneumatic.)
Independent Pneumatic Tool Co., Chicago, Ill.

Road Expansion Joints.
Philip Carey Co., The, Cincinnati, Ohio.

Road Machinery.
Austin-Western Road Mchy. Co., The, Chicago, Ill.
Buffalo Steam Roller Co., Buffalo, N. Y.
Erie Machine Shops, Erie, Pa.
Galion Iron Works & Mfg. Co., The, Galion, Ohio.
Holt Manufacturing Co., The, Peoria, Ill.
Kelly Springfield Road Roller Co., Springfield, O.
Thew Automatic Shovel Co. Lorain, Ohio.
Universal Road Mchy. Co., Kingston, N. Y.
Western Wheeled Scraper Co., Aurora, Ill.
Wheeling Mold & Fdry. Co., Wheeling, W. Va.

Roadmaking Materials.
Barrett Mfg. Co., Philadelphia, Pa.
Bocmac Road Corp. of America, Phila, Pa.
Standard Oil Co., Inc., Newark, N. J.
U. S. Asphalt Refining Co., New York, N. Y.

Road Binders
Barrett Mfg. Co., Phila., Pa.
Standard Oil Co., Newark, N. J.
U. S. Asphalt Refining Co. New York, N. Y.

Road Roller. (Steam.)
Austin-Western Road Mchy. Co., The, Chicago, Ill.
Buffalo Steam Roller Co., Buffalo, N. Y.
Erie Machine Shops, Erie, Pa.
Kelly Springfield Road Roller Co., Springfield, O.
Universal Road Mchy. Co., Kingston, N. Y.

Road Oil.
Gulf Refining Co., Pittsburg, Pa
Standard Oil Co., Inc., Newark, N. J.
U. S. Asphalt Refining Co. New York, N. Y

Road Preservatives.
Barrett Mfg. Co., Philadelphia, Pa
Gulf Refining Co., Pittsburg, Pa.
Standard Oil Co., Inc., Newark, N. J.
U. S Asphalt Refining Co New York, N. Y.

Road Scarifiers.
Buffalo Steam Roller Co., Buffalo, N. Y.
Galion Iron Works & Mfg. Co., The, Galion, Ohio

Rock Crushers. [See Crushers, Rock.]

Roller Covering Supplies.
American Supply Co., Providence, R. I.

Roofing. (Ready Prepared: Felt, Tar, Asbestos, Asphalt.)
American Sheet & Tin Plate Co., Pittsburgh, Pa.
Asbestos Protected Metal Co., Pittsburgh, Pa.
Asphalt Ready Roofing Co., New York, N. Y.
Barrett Mfg. Co., Philadelphia, Pa.
Cameron & Barkley Co., Charleston, S. C.
Chesapeake Roofing & Pipe Covering Co., Baltimore, Md.
Johns-Manville Co., H. W., New York, N. Y.

Roofing. (Metal Shingles.) [See Shingles, Metal.]
Cortright Metal Roofing Co., Philadelphia, Pa.
Edwards Mfg Co., The, Cincinnati, O.

Roofing. (Slate.)
East Bangor Consol. Slate Co., East Bangor, Pa.
Genuine Bangor Slate Co., Easton, Pa.
Johnson, E. J., New York, N. Y.

Roofing and Siding. (Metal.)
American Sheet & Tin Plate Co., Pittsburgh, Pa.
Asbestos Protected Metal Co., Pittsburgh, Pa.
Cameron & Barkley Co., Charleston, S. C.
Cortright Metal Roofing Co., Philadelphia, Pa.
Edwards Mfg. Co., The, Cincinnati, O.
Hyndman Roofing Co., Cincinnati, O.
Portsmouth Steel Co., Portsmouth, O.
Southern Sheet & Tin Plate Co., Ashland, Ky.
Steel Products Co., The, Savannah, Ga.
Tennessee Metal Culvert Co., Nashville, Tenn.
Youngstown Sheet & Tube Co., Youngstown, O.

Rope. (Manila, Sisal, Hemp, etc.)
Broderick & Bascom Rope Co., St. Louis, Mo.
Columbian Rope Co., Auburn, N. Y.
Waterbury Co., New York, N. Y.
Wood's Sons Co., T. B., Chambersburg, Pa.

Rope. (Wire.)
Broderick & Bascom Rope Co., St. Louis, Mo.
Hunt Co., Inc., C. W., West New Brighton, N. Y
Waterbury Co., New York, N. Y.

Rope Drives.
Caldwell & Son, H. W., Chicago, Ill.
Cresson-Morris Co., Philadelphia, Pa.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Medart Patent Pulley Co., St. Louis, Mo.
Waterbury Co., New York, N. Y.
Wood's Sons Co., T. B., Chambersburg, Pa.

Rubber Goods.
Eureka Fire Hose Mfg. Co., New York, N. Y.

Rules. (Steel.)
Lufkin Rule Co., Saginaw, Mich.
Starrett Co., L. S., Athol, Mass.

Safes and Vaults.
York Safe & Lock Co., York, Pa.

Sand.
Arundel Sand & Gravel Co., Baltimore, Md.
Kirkpatrick Sand & Cement Co., Birmingham, Ala.

Sand. (Foundry.)
Newport Sand Bank Co., Inc., Newport, Ky.

Sap Stain Preventive.
Church & Dwight Co., New York, N. Y.

Sash Chain.
Niagara Falls Metal Stamping Works, Niagara Falls N. Y.

Saws.
Geriach Co., Peter, Cleveland, O.
Huther Bros. Saw Mfg. Co., Inc., Rochester, N. Y
Smith Machine Co., H. B., Smithville, N. J.

Saws. (Band.)
Smith Machine Co., H. B., Smithville, N. J.

Saws. (Hack.)
Starrett Co., L. S., Athol, Mass.

Sawmill Dogs.
Soule Steam Feed Works, Meridian, Miss.

Sawmills.
Gainesville Iron Works, Gainesville, Ga.
Gibbes Machinery Co., Inc., Columbia, S. C.
Knight Mfg. Co., Canton, O.
Lane Mfg. Co., Montpelier, Vt.

Sawmill Machinery.
Bailey-Lebby Co., Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C
Chase Turbine Mfg. Co., Orange, Mass.
Knight Mfg. Co., Canton, O.
Lane Mfg. Co., Montpelier, Vt.
Mecklenburg Iron Works, Charlotte, N. C.
Schofield Iron Works, Macon, Ga.
Southern Engine & Boiler Wks., Jackson, Tenn.

Saw Sharpeners.
Carborundum Co., Niagara Falls, N. Y.
Vitrified Wheel Co., Westfield, Mass.

Saw Sharpeners and Files. (Cotton Gin.)
Carver Cotton Gin Co., East Bridgewater, Mass.

Sawing Outfits. (Contractors and Industrial.)
Rutland Foundry & Machine Co., Bennington, Vt.

Scales.
Standard Scale & Supply Co., Pittsburgh, Pa.

Screens. (Fly, Window and Door.)
Cincinnati Mfg. Co., Cincinnati, O.
New Jersey Wire Cloth Co., Trenton, N. J.

Screens. (Mining, Stone, etc.)
Erdle Perforating Co., Rochester, N. Y.
Hendrick Mfg. Co., Carbondale, Pa.
Jeffrey Mfg. Co., Columbus, O.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.
Mundt & Sons, Charles, Jersey City, N. J.
New Jersey Wire Cloth Co., Trenton, N. J.

Screenings. (For Concrete and Road Construction.)
American Ballast Co., Knoxville, Tenn.

Screws. (Machine.)
Progressive Mfg. Co., Torrington, Conn

Screws. (Safety Set.)
Allen Manufacturing Co., Inc., Hartford, Conn

Screw Machine Products.
Progressive Mfg. Co., Torrington, Conn.

Separators. (Dust.)
Buffalo Forge Co., Buffalo, N. Y.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.

Sewer Flushing Siphons.
Pacific Flush Tank Co., New York, N. Y.

Sewer Joint Compounds.
Pacific Flush Tank Co., New York N. Y.

Sewer Pipe. (Vitrified.)
Bannon Pipe Co., P., Louisville, Ky.
Blackmer & Post Pipe Co., St. Louis, Mo.
Canneiton Sewer Pipe Co., Canneiton, Ind.
Owensboro Sewer Pipe Co., Owensboro, Ky.
Pomona Terra-Cotta Co., Pomona, N. C.
Southern Sewer Pipe Co., Birmingham, Ala.
Stevens Sons Co., H., Macon, Ga.

Sewer Pipe and Drains. (Monolithic Concrete)
Requarth Co., C. W., Charlotte, N. C.

Sewer Supplies
Clarksville Fdry. & Mach. Works, Clarksville, Tenn.

Sewage Pumping and Disposal Apparatus.
Pacific Flush Tank Co., New York, N. Y.

Shafting. (Cold Rolled Steel.)
American Steel & Wire Co., Chicago, Ill.

Shafting. (Polished Steel.)
Jones & Laughlin Steel Co., Pittsburgh, Pa
Medart Patent Pulley Co., St. Louis, Mo.
Pardee Works, C., Perth Amboy, N. J.
Republic Iron & Steel Co., Youngstown, O.
Union Drawn Steel Co., Beaver Falls, Pa.

Shafting. [See Pulleys, Shafting and Hangers.]

Sharpening Stones.
Carborundum Co., Niagara Falls, N. Y.
Vitrified Wheel Co., Westfield, Mass.

Sheet, Brass and Copper.
McKenna Bros. Brass Co., Pittsburgh, Pa.

Sheet Metal Work.
Atlas Metal Works, Dallas, Tex.
Danzer Metal Works, Hagerstown, Md
Dixie Culvert & Metal Co., Atlanta, Ga.
Lone Star Culvert Co., Houston, Tex
McMillan Bros., Jacksonville, Fla.
Niagara Falls Metal Stamping Works, Niagara Falls, N. Y.
Salisbury Metal Culvert Co., Salisbury, N. C.
South Atlantic Blow Pipe & Sheet Metal Co Savannah, Ga.
Steel Products Co., The, Savannah, Ga.
Tennessee Metal Culvert Co., Nashville, Tenn.
Virginia Metal & Culvert Co., Roanoke, Va.
Voigtmann & Co., Chicago, Ill.

Sheet Metal Working Machinery.
Bliss Co., E. W., Brooklyn, N. Y

Sheet Steel and Iron.
American Sheet & Tin Plate Co., Pittsburgh, Pa.
Cincinnati Iron & Steel Co. Cincinnati, O.
La Belle Iron Works, Steubenville, O.
Portsmouth Steel Co., Portsmouth, O.
Republic Iron & Steel Co., Youngstown, O.
Southern Sheet & Tin Plate Co., Ashland, Ky.
Tennessee Coal, Iron & R. R. Co., B'mgh'm, Ala
Wood Iron & Steel Co., Alan, Philadelphia, Pa.
Youngstown Sheet & Tube Co., Youngstown, O.

Shelving. [(Steel) Vault, Store, Etc.]
Merritte & Co. Camden, N. J.
Van Harlingen, J. M., Atlanta, Ga.

Shingles. (Metal.)
Cortright Metal Roofing Co., Philadelphia, Pa
Edwards Mfg. Co., Cincinnati, O.
Hyndman Roofing Co., Cincinnati, O.
Southern Sheet & Tin Plate Co., Ashland, Ky.

Shop Furniture. (Steel.)
Merritte & Co. Camden, N. J.

Shovels. (Special for Any Purpose.)
Conneaut Shovel Co., The, Conneaut, Ohio.

Shovels. (Steel, Brass, Aluminum, etc.)
Conneaut Shovel Co., The, Conneaut, Ohio

Shutters. (Iron.)
Bolles Iron & Wire Works, J. E., Detroit, Mich
Chesapeake Iron Works, Baltimore, Md.

Shutters. (Steel Rolling.)
Kinnear Mfg. Co., Columbus, O.

Shutters. (Tin Clad.)
Victor Mfg. Co., Newburyport, Mass

Silos. (Metal.)
Dixie Culvert & Metal Co., Atlanta, Ga

Skylights and Cornices.
Danzer Metal Works, Hagerstown, Md

Slate. (Roofing, Sanitary, Structural, etc.)
East Bangor Con. Slate Co., East Bangor, Pa.
Genuine Bangor Slate Co., Easton, Pa.
Johnson, E. J., New York, N. Y.

Sluice Gates and Appliances.
Coldwell-Wilcox Co., Newburgh, N. Y.

Smokestacks. (Iron and Steel.)
Chattanooga Boiler & Tank Co., Chat'n'ga, Tenn.
Des Moines Bridge & Iron Co., Des Moines, Ia
Keeler Co., E., Williamsport, Pa.
Lombard Iron Works, Augusta, Ga.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa
Schofield Iron Works, Macon, Ga.
Virginia Bridge & Iron Co., Roanoke, Va.

Soda. (Bicarbonate.)
Church & Dwight Co., New York, N. Y.

Speed Changes. (Variable.)
Moore & White Co., The, Philadelphia, Pa.

Speed Reducing Transmissions.
James Mfg. Co., D. O., Chicago, Ill.

Spikes. (Railroad.)
Hoffman & Co., Inc., R. C., Baltimore, Md.
Newhall Eng. Co., Geo. M., Philadelphia, Pa

Spikes. [See Nails and Spikes.]

Spiral Stairs.
Merritte & Co. Camden, N. J.

Springs. (Machinery, Railway, Spiral.)
Cary Spring Works, New York, N. Y
Raymond Mfg Co., Ltd., Corry, Pa.

Stamp Mills.
Mecklenburg Iron Works, Charlotte, N. C

Stamps. (Brass, Rubber.)
Baltimore Office Supply Co., Baltimore, Md.

Standpipes.
Chattanooga Boiler & Tank Co., Chattanooga Tenn.
Chicago Bridge & Iron Works, Chicago, Ill.
Des Moines Bridge & Iron Co., Des Moines, Ia.
Hartley Boiler Works, Montgomery, Ala
Keeler Co., E., Williamsport, Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Struthers-Wells Co., Warren, Pa.

Stapling Machinery. (Fruit Package, Basket, etc.)
Saranac Machine Co., Benton Harbor, Mich.

Stationers. (Envelopes, Letter and Bill Heads etc.)
Young & Selden Co., Baltimore, Md

Steam Feeds.
Soule Steam Feed Works, Meridian, Miss.

Steam Fitters' Supplies.
Saunders' Sons, D., Inc., Yonkers,

Steam Heating.
Keeler Co., E., Williamsport, Pa.

Steamship Lines. (Coastwise.)
Baltimore Steam Packet Co., Baltimore, Md
Chesapeake Steamship Co., Baltimore, Md.
Merchants & Miners' Trans. Co., Baltimore, Md

Steamship Lines. (Trans Atlantic.)
Cunard Steamship Co., Ltd., New York, N. Y.

Steam Shovel Chains.
Weimer Chain & Iron Co., Lebanon, Pa.

Steam Shovels.
American Clay Machinery Co., The, Bucyrus, Ohio.
Fairbanks Steam Shovel Co., Marion, O.
Keystone Drill & Equipment Co., Beaver Falls, Pa.
Marion Steam Shovel Co., Marion, Ohio.
Sherwood, E. C., New York, N. Y.
Thew Automatic Shovel Co., Lorain, Ohio.

Steam Specialities.
Lankenheimer Co., The, Cincinnati, Ohio.
Powell Co., Wm., Cincinnati, O.

Steam Traps.
Jenkins Bros., New York, N. Y.

Steel.
Dietrich Bros., Baltimore, Md.
Gulf States Steel Co., Birmingham, Ala.
Hendrick Mfg. Co., Carbondale, Pa.
Hoffman & Co., Inc., R. C., Baltimore, Md.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
La Belle Iron Works, Steubenville, O.
Lackawanna Steel Co., Lackawanna, N. Y.
Pardee Works, C., Perth Amboy, N. J.
Portsmouth Steel Co., Portsmouth, Ohio.
Republic Iron & Steel Co., Youngstown, O.
Tennessee Coal, Iron & R. R. Co., Birm'gh'm, Ala.
Union Drawn Steel Co., Beaver Falls Pa.
Upson Nut Co., The, Cleveland, O.
Wood Iron & Steel Co., Alan, Philadelphia, Pa.
Youngstown Sheet & Tube Co., The Youngstown, O

Steel. (Tool.)
Bourne-Fuller Co. The, Cleveland, Ohio.
McKenna Bros., Brass Co., Pittsburgh, Pa.
Union Drawn Steel Co., Beaver Falls Pa.

Steel. (Vanadium.)
Union Drawn Steel Co., Beaver Falls, Pa.

Steel Buildings. (Designers, Builders.)
Amer. Bridge Co., of New York, N. Y.
Belmont Iron Works, Philadelphia, Pa.
Champion Bridge Co., Wilmington, O.
Chesapeake Iron Works, Baltimore, Md.
Des Moines Bridge & Iron Co., Des Moines, Ia.
Phoenix Iron Co., Philadelphia, Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Richmond Structural Steel Co., Richmond, Va.
Schreiber & Sons Co., The L., Cincinnati, O.
Snead Architectural Iron Wks., Louisville, Ky.
Turner, C. A. P., Minneapolis, Minn.
Virginia Bridge & Iron Co., Roanoke, Va.

Steel Castings.
Crucible Steel Castings Co., Lansdowne, Pa.
Hoffman & Co., Inc., R. C., Baltimore, Md.
Riverside Steel Casting Co., Newark, N. J.

Steel Plate Work.
Casey-Hedges Co., Chattanooga, Tenn.
Chattanooga Boiler & Tank Co., Chat'n'ga, Tenn.
Coatesville Boiler Works, Coatesville, Pa.
Hoffman & Co., Inc., R. C., Baltimore, Md.
Memphis Steel Construction Co., Memphis, Tenn.
Phoenix Iron Co., Philadelphia, Pa.
Struthers-Wells Co., Warren, Pa.

Steel Protector. (Concrete Curb. Steps. etc.) [See Curb Protector Steel.]

Steel Sheet Piling.
Franks, J. E., Atlanta, Ga.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Lackawanna Steel Co., Lackawanna, N. Y.

Stencils.
Baltimore Office Supply Co., Baltimore, Md.

Stills. (Turpentine.)
McMillian Bros., Jacksonville, Fla.

Stirrups. (Building.)
Chesapeake Iron Works, Baltimore, Md.

Stock Certificates, Bonds and Seals.
Baltimore Office Supply Co., Baltimore, Md

Stock Room Racks, Bins, Etc.
Merritte & Co. Camden, N. J.

Stokers. (Hand.)
Huber Grate Bar & Stoking Co., Baltimore, Md.

Stokers. (Mechanical.)
Babcock & Wilcox Co., New York, N. Y.
Westinghouse Machine Co., Pittsburgh, Pa.

Stone. (Building.)
Atlantic Stone Co., Atlanta, Ga.
Bedford Steam Stone Works, Bedford. Ind.
Kirkpatrick Sand & Cement Co., Birmingham, Ala

Stone. (Crushed.) [See Crushed Stone.]

Stone and Gravel Plants.
Weller Mfg. Co., Chicago, Ill.

Storage Batteries.
Elec. Storage Battery Co., The, Philadelphia, Pa.
Westinghouse Machine Co., Pittsburgh, Pa.

Strapping Leather.
raton & Knight Mfg. Co., Worcester, Mass.

Structural Steel and Iron.
Allegheny Steel Co., Pittsburgh, Pa
Amer. Bridge Co. of New York, N. Y
Belmont Iron Works, Philadelphia, Pa
Bourne-Fuller Co., The, Cleveland, Ohio
Champion Bridge Co., Wilmington, O.
Chesapeake Iron Works, Baltimore, Md.
Chicago Bridge & Iron Works, Chicago, Ill.
Cincinnati Iron & Steel Co., Cincinnati, O.
Des Moines Bridge & Iron Co., Des Moines, Ia.
Dietrich Bros., Baltimore, Md.
East St. Louis Bridge Co., East St. Louis, Ill.
Grainger & Co., Louisville, Ky.
Greenspon's Sons Iron & Steel Co., Jos., St. Louis, Mo.
Hoffman & Co., Inc., R. C., Baltimore, Md.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Lackawanna Steel Co., Lackawanna, N. Y.
Oregonia Bridge Co., Lebanon, Ohio.
Memphis Steel Construction Co., Memphis, Tenn.
Phoenix Iron Co., Philadelphia, Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Republic Iron & Steel Co., Youngstown, O.
Richmond Structural Steel Co., Richmond, Va.
Scaife & Sons Co., Wm. B., Pittsburgh, Pa.
Schreiber & Sons Co., The L., Cincinnati, O.
Snead Architectural Iron Works, Louisville, Ky
Southern Sheet & Tin Plate Co., Ashland, Ky.
Steel Products Co., The, Savannah, Ga.
Tennessee Coal, Iron & R. R. Co., Birm'gh'm, Ala.
Vincennes Bridge Co., Vincennes, Ind.
Virginia Bridge & Iron Co., Roanoke, Va.

Stump Pullers.
Zimmerman Steel Co., Lone Tree, Iowa.

Sulphur.
Union Sulphur Co., New York, N. Y.

Super-Heaters. (Steam.)
Babcock & Wilcox Co., New York, N. Y.
Power Specialty Co., New York, N. Y.

Surveying Instruments.
Weber & Co., F., Philadelphia, Pa.

Swinging Engines.
Lake Engine Co., Grand Haven, Mich.

Switchboards, Switches, etc.
General Electric Co., Schenectady, N. Y

Switches. [See Railroad Frogs and Switches.]

Switchstands.
Weir Frog Co., Cincinnati, O

Tackle Blocks. (For Wire or Manila Rope.)
Broderick & Bascom Rope Co., St. Louis, Mo.

Talc and Soapstone Powders.
Georgia Talc Co., Ashville, N. C.

Tanks (Iron and Steel.)
American Bridge Co., New York, N. Y.
American Water Softener Co., Philadelphia, Pa.
Caldwell Co. Inc., W. E., Louisville, Ky.
Casey-Hedges Co., Chattanooga, Tenn.
Chattanooga Boiler & Tank Co., Chat'n'ga, Tenn.
Chicago Bridge & Iron Works, Chicago, Ill.
Coatesville Boiler Works, Coatesville, Pa.
Cole Mfg. Co., R. D., Newnan, Ga.
Des Moines Bridge & Iron Co., Des Moines, Ia.
Dixie Culvert & Metal Co., Atlanta, Ga
Harry Bros. Co., New Orleans, La.
Hartley Boiler works, Montgomery, Ala.
Hendricks Mfg. Co., Carbondale, Pa.
Keeler Co., E., Williamsport, Pa.
Keystone Boiler & Foundry Co., Columbia, Pa.
Lombard Iron Works, Augusta, Ga.
Lookout Boiler & Mfg. Co., Chattanooga, Tenn.
Memphis Steel Construction Co., Memphis, Tenn.
New York Central Iron Wks. Co., Hagerstown, Md.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Schofield Iron Works, Macon, Ga.
Struthers-Wells Co., Warren, Pa.
Tennessee Metal Culvert Co., Nashville, Tenn.
Twin City Boiler Works, Bristol, Va.-Tenn.
Virginia Bridge & Iron Co., Roanoke, Va.
Walsh & Weidner Boiler Co., Chattanooga, Tenn.

Tanks. (Wood.)
Caldwell Co., Inc., W. E., Louisville, Ky
Davis & Son, G. M., Palatka, Fla.

Tapes. (Measuring.)
Lufkin Rule Co., Saginaw, Mich.
Starrett Co., L. S., Athol Mass.

Telephones. (Supplies, Equipment.)
Piedmont Electric Co., Asheville, N. C.
Western Electric Co., New York, N. Y.

Telephone Service.
American Telephone & Telegraph Co.

Tenoner. (Box and Crate.)
Chase Turbine Mfg. Co., Orange Mass.

Terra-Cotta. (Ornamental.)
Atlanta Terra-Cotta Co., Atlanta, Ga
Maryland Terra-Cotta Co., Baltimore, Md.
Pomona Terra-Cotta Co., Pomona, N. C.
Southern Building Material Co., Norfolk, Va.
Stevens' Sons Co., H., Macon, Ga.

Threshers.
Cardwell Machine Co., Richmond, Va.

Tiering Machines. (Portable.)
Economy Engineering Co., Chicago, Ill

Tile (Drain)
Oconee Brick & Tile Co., Milledgeville, Ga.

Tile (Interior)
Amer. Enam. Brick & Tile Co. New York, N. Y.
P & F Tile Co., Birmingham, Ala.

Tile. (Mantel and Promenade.)
Hood Brick Co., B. Mifflin, Atlanta, Ga.

Tile (Structural)
Oconee Brick & Tile Co. Milledgeville Ga.

Timbers. (Creosoted.)
American Creosote Works, New Orleans, La.
Republic Creosoting Co., Indiadapolis, Ind.

Tin and Terne Plates.
American Sheet & Tin Plate Co., Pittsburgh, Pa.

Tobacco Machinery.
Buckeye Iron & Brass Works, Dayton, O
Cardwell Machine Co., Richmond, Va.

Transformers.
Crocker-Wheeler Co., Ampere, N. J
Triumph Electric Co., Cincinnati, O.

Trench Excavator. [See Excavator (Trench.)]

Trucks. (Dry Kiln.)
Moore Dry Kiln Co., L., Jacksonville, Fla

Trucks. (Platform. Freight, Mill, Factory, etc.)
Bernstein Mfg. Co., Phila., Pa.
Chase Fdry. & Mfg. Co., Columbus, O

Trucks. (Storage Battery Auto.)
Westinghouse Machine Co., Pittsburgh, Pa

Trucks (Storage Battery) [For Warehouses & Industrial Plants]
Elwell Parker Electric Co. The, New York, N. Y.

Trust Companies. [See Bankers and Brokers.]

Tubes. (Boiler.)
Allegheny Steel Co , Pittsburgh, Pa
Cincinnati Iron & Steel Co., Cincinnati, O
National Tube Co., Pittsburgh, Pa.

Tube Well Strainers.
Cook, A. D., Lawrenceburg, Ind.

Tubing.
La Belle Iron Works, Steubenville, O.
National Tube Co., Pittsburgh, Pa.
Youngstown Sheet & Tube Co., Youngstown, O

Turbines. (Hydraulic.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Davis Foundry & Machine Wks., Rome, Ga
Leffel & Co., James, Springfield, O.
Salem Foundry & Machine Wks., Salem, Va.
Smith Co., S. Morgan York, Pa.

Turbines. (Steam.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
General Electric Co., Schenectady, N. Y.
Sturtevant Co., B. F., Hyde Park, Boston, Mass.
Terry Steam Turbine Co., Hartford, Conn.
Western Electric Co., New York, N. Y.
Westinghouse Machine Co., Pittsburgh, Pa.

Turn Buckles.
Broderick & Bascom Rope Co., St. Louis, Mo.

Turntables.
American Bridge Co., New York, N. Y.
Virginia Bridge & Iron Co., Roanoke, Va

Twine.
Columbian Rope Co., Auburn, N. Y.

Tools. (Machinists'.)
Holland Mfg. Co., Erie, Pa.
Morse Twist Drill & Mch. Co., New Bedford. Mass

Tools. (Mechanical.)
Starrett Co., L. S., Athol, Mass

Tools. Pneumatic.)
Chicago Pneumatic Tool Co., Chicago, Ill.
Independent Pneumatic Tool Co., Chicago, Ill.

Tools. (Tinners'.)
Danzer Metal Works, Hagerstown, Md.

Torches.
Wall Mfg. Supply Co., P., Allegheny, Pa

Towers. (Electric Transmission.)
American Bridge Co. of New York, N. Y.
Scaife & Sons Co., Wm. B., Pittsburgh, Pa.

Towers. (Steel and Wood.)
Caldwell & Co., Inc., W. E., Louisville, Ky.
Chattanooga Boiler & Tank Co., Chat'n'ga, Tenn.
Chicago Bridge & Iron Works, Chicago, Ill.
Cole Mfg. Co., R. D., Newnan, Ga.
Columbia Pump & Well Co., Washington, D. C.
Des Moines Bridge & Iron Co., Des Moines, Ia.
Memphis Steel Const. Co., Memphis, Tenn.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Track Material. (Steam & Industrial Railroads.)
Conley Frog & Switch Co., Memphis, Tenn
Upson Nut Co., Cleveland, O.

Traction Engines.
Fairbanks-Morse & Co., Atlanta, Ga.
Heer Engine Co., Portsmouth, Ohio.
Holt Mfg. Co., The, Peoria, Ill.

Tramway. (Overhead.)
Ambursen Co. (Tramway Department). New York, N. Y.
Speidel, J. G., Reading, Pa.

Tramways. (Portable.)
Ambursen Co. (Tramway Department), New York, N. Y.

Tramway. (Wire Rope.)
Ambursen Co. (Tramway Department), New York, N. Y.
American Steel & Wire Co., Chicago, Ill.
Broderick & Bascom Rope Co., St. Louis, Mo.
Caldwell & Sons Co., H. W., Chicago, Ill.
Link-Belt Co., Nicetown (Philadelphia), Pa.
Waterbury Co., New York, N. Y.

Unions.
Dart Mfg. Co., E. M., Providence, R. I.
National Tube Co., Pittsburgh, Pa.

Upholstering Material. (For Auto's & Furniture)
Du Pont Fabrikoid Co., Wilmington, Del.

Vacuum Cleaning Apparatus.
King Co., F. E., Norfolk, Va.
United Electric Co., The, Canton, O

Valves.
Bourbon Copper & Brass Wks. Co., Cincinnati, O
Columbian Iron Works, Chattanooga, Tenn.
Frick Co., The, Waynesboro, Pa.
Glamorgan Pipe & Fdry Co., Lynchburg, Va
Jenkins Bros., New York, N. Y.
Lunkenheimer Co., The, Cincinnati, O.
National Tube Co., Pittsburgh, Pa.
Powell Co., Wm., Cincinnati, O.
Pittsburgh Valve Fdry. & Const. Co., Pittsburgh, Pa.
York Mfg. Co., York, Pa.

Valve Boxes.
Clark Co., H. W., Mattoon, Ill

Varnish.
Berry Bros., Detroit, Mich.

Veneer Machines.
Titus, E. E., Petersburg, Va.

Ventilating Apparatus. (Engineers' and Contractors'.)
Buffalo Forge Co., Buffalo, N. Y.
Sturtevant Co., B. F., Hyde Park, Boston, Mass

Vises
Holland Mfg. Co., Erie, Pa.

Wagons. (Dump.)
Troy Wagon Works Co., The, Troy, O.
Western Wheeled Scraper Co , Aurora Ill.

Wall Coping.
Southern Sewer Pipe Co., Birmingham, Ala.

Wall Plugs. (Galvanized.)
Niagara Falls Metal Stamping Works. Niagara Falls, N. Y

Wall Ties.
Niagara Falls Metal Stamping Works, Niagara Falls N. Y.
Page Woven Wire Fence Co., Adrian, Mich

Washers. (Ore and Phosphate.)
Bailey-Lebby Co., Charleston, S. C.
Cameron & Barkley Co., Charleston, S. C.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa

Washers and Rivets. [See Bolts, Nuts, Rivets Studs and Washers.]

Watchman's Clocks.
Watchman's Clock & Supply Co., New York, N. Y

Water Filters. (See Filters, Water, etc.)

Waterproofing. (For Brick Work.)
Barrett Mfg. Co., Philadelphia, Pa.
McCormick Waterproof Portland Cement Co., St Louis, Mo.

Waterproofing. (For Concrete.)
Barrett Mfg. Co., Philadelphia, Pa.
Johns-Manville Co., H. W., New York, N. Y.
McCormick Waterproof Portland Cement Co., St Louis, Mo.

Water-Softening Apparatus. (Purifying.)
American Water Softener Co., Philadelphia, Pa.
International Filter Co., Chicago, Ill.
N. Y. Cont. Jewell Filt'n Co., New York, N. Y.
Tucker & Laxton, Charlotte, N. C.

Water-Wheels. [See Turbines. (Hydraulic.)

Water-Works Construction.
Berry-Fortune Const. Co., Eatonton, Ga.

Water-Works Supplies and Appliances.
Allen-Scales Engineering Co., Nashville, Tenn.
American Cast Iron Pipe Co., Birmingham, Ala.
American Pipe & Constr. Co., Philadelphia, Pa
Bourbon Copper & Brass Wks. Co., Cincinnati, O.
Clark Co., H. W., Mattoon, Ill.
Clarksville Fdry. & Mach. Works, Clarksville, Tenn.
Clow & Sons, James B., Chicago, Ill.
Coldwell-Wilcox Co., Newburgh, N. Y.
Columbian Iron Works, Chattanooga, Tenn.
Donaldson Iron Co., Emaus, Pa.
Glamorgan Pipe & Foundry Co., Lynchburg, Va.
Keystone Pump & Well Engine Co., Beaver Falls, Pa
Layne & Bowler Co., Houston, Tex.
Leadite Co., Inc., The, Philadelphia, Pa.
Lynchburg Foundry Co., Lynchburg, Va.
Massilon Iron & Steel Co., Massillon, Ohio.
Pomona Terra-Cotta Co., Pomona, N. C.
Salem Fdry. & Machine Works Salem, Va.
Standard Cast Iron Pipe & Foundry Co., Bristol, Pa
Standard Spiral Pipe Works, Chicago, Ill.
Stevens' Sons Co., H., Macon, Ga.
U. S. Cast Iron Pipe & Fdry. Co., Burlington, N. J.
Warren Foundry & Machine Co., New York, N. Y
Wood & Co., R. D., Philadelphia, Pa.

Welding. (Oxy-Acetylene Process.)
Prest-O-Lite Co., Inc., The, Indianapolis, Ind.

Welding Plants. (Oxy-Acetylene.)
Milburn Co., Alex. N., Baltimore, Md.

Welding Apparatus. (Oxy-Acetylene Process.)
Prest-O-Lite Co., Inc., The, Indiadapolis, Ind.

Welding Supplies.
Prest-O-Lite Co., Inc., The, Indianapolis, Ind.

Well Contractors. (Oil, Artesian, etc.)
Columbia Pump & Well Co., Washington, D. C.
Cook, A. D., Lawrenceburg, Ind.
Hughes Specialty Well Drill Co., Charleston, S. C
Stothoff Bros., Flemington, N. J.

Well Tools and Supplies.
Cook A. D., Lawrenceburg, Ind.
Keystone Pump & Well Engine Co., Beaver Falls Pa
Williams Bros., Ithaca, N. Y.

Wheels and Axles.
Electric Wheel Co., Quincy, Ill.
Oliver Mfg. Co., W. J., Knoxville, Tenn.

Wheelbarrows and Carts.
Sterling Wheelbarrow Co., Milwaukee, Wis

Window Frames and Sash. (Fireproof.)
Detroit Steel Products Co., Detroit, Mich.
Edwards Mfg. Co., The, Cincinnati, O.
Voigtmann & Co., Chicago, Ill
Wagner's Sons Co., J. F., Louisville, Ky.

Window Guards. (Wire.) [See Wire Goods.]

Windmills.
Caldwell Co., Inc., W. E., Louisville, Ky.
Columbia Pump & Well Co , Washington, D. C

Wire. (Barbed Wire, etc.)
American Steel & Wire Co., Chicago, Ill.
Cyclone Fence Co., Waukegan, Ill.
Roebling's Sons Co., John A., Trenton, N. J.
Youngstown Sheet & Tube Co., Youngstown, O

Wire. (Galvanized and Annealed.)
American Steel & Wire Co., Chicago, Ill
Gulf States Steel Co., Birmingham, Ala.

Wire. (Galvanized Telephone.)
American Steel & Wire Co., Chicago, Ill.
Gulf States Steel Co., Birmingham, Ala.

Wire. (Plain Steel, Hoop, etc.)
Gulf States Steel Co., Birmingham, Ala.

Wire. (Signal.)
Safety Insulated Wire & Cable Co., New York, N. Y

Wire Cloth. (Iron, Steel, Brass, etc.)
Caldwell & Sons Co., The, H. W., Chicago, Ill.
Meyers Mfg. Co., The Fred J., Hamilton, O.
New Jersey Wire Cloth Co., Trenton, N. J.

Wire Goods.
Bolles Iron & Wire Wks., J. E., Detroit, Mich
Cincinnati Mfg. Co., Cincinnati, O.
Dow Wire & Iron Works, Louisville, Ky.
Dufur & Co., Baltimore, Md.
Dufur, Baggott & Co., Baltimore, Md.
Meyers Mfg. Co., The Fred J., Hamilton, O
New Jersey Wire Cloth Co., Trenton, N. J

Wire Netting.
American Steel & Wire Co., Chicago, Ill.
New Jersey Wire Cloth Co., Trenton, N. J

Wire Rope.
American Steel & Wire Co., Chicago, Ill.
Broderick & Bascom Rope Co., St. Louis, Mo
Roebling's Sons Co., John A., Trenton, N. J
Waterbury Co., New York, N. Y.
Youngstown Sheet & Tube Co., Youngstown, O

Wire Rope Clips.
American Steel & Wire Co., Chicago, Ill.
Broderick & Bascom Rope Co., St. Louis, Mo

Wires and Cables. (Insulated.)
Safety Insulated Wire & Cable Co., New York, N. Y

Wood Blocks. (For Paving and Factory Floors
U. S. Wood Preserving Co., New York, N. Y

Wood Distillation.
Struthers-Wells Co., Warren, Pa

Wood Pipe (For Water, etc.)
Wyckoff & Son Co., A., Elmira, N. Y

Wood (Preservative.)
Barrett Mfg. Co., Phila., Pa.

Woodworking Machinery.
Chase Turbine Mfg. Co., Orange, Mass.
Gibbes Mach. Co., Inc., Columbia, S. C.
Kline, Lewis T., Alpena, Mich.
Lane Mfg. Co., Montpelier, Vt.
Smith Machine Co., H. B., Smithville, N. J.

Yarn. (Tarred Steel.)
Columbian Rope Co., Auburn, N. Y

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We desire to use, as far as possible, uniform display type and borders and avoid the use of black background cuts. The uniform border is two-point plain rule for all spaces less than a full page.

Copy for advertisements other than those to be used in special departments should be prepared for two-column measure for spaces less than a quarter page; for a quarter page or larger, in two or four columns.

ALPHABETICAL INDEX OF ADVERTISEMENTS.

A

A. B. C. Dumbwaiter ... 13
Affiliated Manufacturers Co ... *
Albany Lubricating Co ... *
Alberger Pump & Condenser Co ... 28
Allegheny Steel Co ... 21
Allen Mfg. Co., Inc ... 12
Allen-Scales Engineering Co, Inc ... 15
Allis-Chalmers Mfg. Co ... 4
Alpha Photo Engraving Co ... 76
Aising Engineering Co., J. R. ... 79
Aluminum Co. of America ... 5
Ambursen Co. (Tramway Dept) 70
American Ballast Co ... 26
American Blower Co ... 23
American Bridge Co. of New York ... 22
American Cast Iron Pipe Co. 30, 31
American Clay Mchy. Co ... 29
American Cotton Oil Co ... 78
American Creosote Works ... 79
American Electric Mch. & Elevator Co ... 13
American Elevator & Mch. Co. 13
Amer. Enam. Brick & Tile Co. 26
American Frog & Switch Co ... 68
Amer. Pipe & Construc. Co ... 31
American Process Co ... 11
Amer. Sheet & Tin Plate Co ... 25
American Spiral Pipe Works ... †
American Steel Dredge Co ... 71
American Steel & Wire Co ... 3
American Supply Co. of Providence, R. I ... ‡
American Telephone & Telegraph Co ... †
American Water Softener Co ... 8
Anderson & Christie ... 14
Armco Culvert Publicity Bureau ... ‡
Arnold Co., The ... 14
Arundel Sand & Gravel Co ... 96
Asbestos Protected Metal Co ... 24
Asphalt Ready Roofing Co ... 25
Assets Purchasing Co ... 65
Atlanta Terra Cotta Co ... 26
Atlanta & West Point R. R ... 82
Atlantic Engineering Co ... 15
Atlantic Stone Co ... 73
Atlas Machine Co ... ‡
Atlas Metal Works ... *
Austin Mfg. Co ... 68
Austin-Western Road Mchy. Co. *

B

Babcock & Wilcox Co ... 7
Badger & Sons Co., E. B. ... 8
Bailey & James Boiler & Mchy. Co ... 65
Bailey-Lobby Co ... 95
Bald Mountain Quarry ... 73
Baldwin Locomotive Works, The ... 69
Ball Engine Co ... 4
Baltimore & Ohio R. R ... 84
Baltimore Audit Co ... 57
Baltimore Belting Co ... †
Baltimore Office Supply Co ... 57
Baltimore Steam Packet Co ... 93
Bannon Pipe Co., P ... *
Barker-Bonner, Inc ... 68
Barnett Co., G. & H ... 96
Barrett Mfg. Co ... 59, 79
Bartlett & Snow Co., C. O ... 11
Bay City Dredge Works ... 71
Baylis, John R ... 14
Bedford Steam Stone Works ... 26
Belmont Iron Works ... 22
Berckmans, Co. P. J ... 14
Bernstein Mfg. Co ... 2
Berry Bros., Inc ... †
Binswanger & Co ... *
Birmingham Rail & Loco. Co ... 67
Blair & Drane ... 14
Blackmer & Post Pipe Co ... 32
Blake & Knowles Steam Pump Works ... ‡
Blakeslee Mfg. Co ... †
Bliss Co., E. W ... 2
Bolinders Co ... ‡
Bolles Iron & Wire Works, J. E. 24
Boomer & Boschert Press Co . 95
Boston-Economy Lamp Division, National Lamp Works of General Elect. Co ... *
Boston Iron & Metal Co ... 65
Bourbon Copper & Brass Wks. Co ... 28
Bourne-Fuller Co ... *
Box 247 ... 64
Box 456 ... 65
Box 5000 ... 62
Brecht Co ... 9
Brenner & Co., L ... 67
Broderick & Bascom Rope Mfg. Co ... 32, 65
Brown & Clarkson ... 15
Bryant, A. Giaucus ... 14
Buchanan, C. G., Co., Inc ... 79
Buckeye Iron & Brass Works, 78
Buffalo Forge Co ... ‡
Buffalo Steam Pump Co ... ‡
Builders' Exchange, Baltimore 57
Burr & Son, John T ... †
Burroughs Adding Machine Co. *
Burruss Engineering Co ... 18
Byers Co., A. M ... ‡
Byers Machine Co., John F ... 72

C

Caldwell Co., Inc., W. E ... 77
Caldwell & Son Co., H. W ... 4
Cameron & Barkley Co ... 95
Cameron Steam Pump Works, A. S ... 27
Cannelton Sewer Pipe Co ... 91
Canton Culvert & Silo Co ... 73
Carborundum Co ... ‡
Cardwell Machine Co., The ... 78
Carey Co., Philip ... †
Carlyle Paving Brick Co., The. 75
Carolina, Clinchfield & Ohio Railway Co ... 85
Cary Spring Works ... ‡
Casey-Hedges Co., The ... 7
Cawthon Hotel ... 80
Central of Georgia Railway ... 82
Central Transfer Co ... 67
Champion Bridge Co ... 23
Chandlee & Chandlee ... ‡
Charles, H. B ... 65
Chase Foundry & Mfg. Co ... 68
Chattanooga Boiler & Tank Co. 77
Chattanooga Paint Co ... 26
Cheesman & Elliot ... 23
Chesapeake Belting Co ... 10
Chesapeake Iron Works ... 22
Chesapeake Roofing & Pipe Covering Co., Inc ... 8
Chesapeake Steamship Co ... 85
Chicago Bridge & Iron Wks. 77
Chicago Pneumatic Tool Co. . †
Chickamauga Quarry & Const. Co ... 75
Chidrey Co., The ... 14
Church & Dwight Co ... 19
Cincinnati Frog & Switch Co. . 68
Cincinnati Iron & Steel Co. .. ‡
Cincinnati Mfg. Co ... 24
Clark Co., H. W ... 29
Clarksville Foundry & Machine Works ... *
Classified Opportunities ... 60, 61
Clayton Air Compressor Plant ‡
Cleveland Belting & Mchy. Co. 66
Climax Mfg Co ... 69
Clinchfield Coal Corp ... 2
Clinchfield Fuel Co ... 2
Clinchfield Portland Cement Corp ... 16
Clow & Sons, James B ... 30
Coatesville Boiler Wks ... 11
Coldwell-Wilcox Co ... 95
Cole Mfg. Co., R. D ... 77
Columbia Pump & Well Co ... 28
Columbian Iron Works ... 28
Columbian Rope Co ... 10
Columbus Malleable Iron Co. . 80
Conley Frog & Switch Co ... 68
Conneaut Shovel Co ... 73
Consolidation Coal Co., Inc ... 96
Continental Gin Co 78
Cook, A. D ... *
Cooper Co., C. & G ... 4
Cooper Contracting Co ... 67
Copeland-Inglis Shale Brick Co ... 75
Cortright Metal Roofing Co,. 25
Cresson-Morris Co ... 12
Crosby, Walter Wilson ... 14
Crucible Steel Casting Co ... 80
Cummer & Son Co., F. D ... 75
Cunard Steamship Co., Ltd ... 95
Cunningham Const. Co. 15
Curd, George B ... 67
Curran Elevator Co., James H. *
Cutler Mail Chute Co ... 57
Cyclone Fence Co ... 30

D

Dabney Engr. Co 14
Dake Engine Co ... 72
Danzer Metal Wks ... 2
Dart Mfg. Co., E. M ... 18
Davenport Locomotive Works, 69
Davis Fdry. & Mch. Works ... 21
Davis Geo. C ... 14
Davis & Son, G. M ... 77
Day & Zimmerman ... 14
Dean Bros. Steam Pump Wks. 28
Deane Steam Pump Plant ... ‡
De Cou Co., Richard ... 65
Delaware Trust Co ... 57
Des Moines Bridge & Iron Co. 77
De Soto Hotel ... ‡
Detroit Steel Products Co ... ‡
Diamond Labor Agency ... 67
Diehl, Wm. Newton ... 14
Dietrich Bros ... 22
Dixie Culvert & Metal Co ... *
Dixie Portland Cement Co ... 17
Dixon Crucible Co., Joseph ... 96
Donaldson Iron Co ... 30
Dow Wire & Iron Works ... 32
Draper Co ... 32
Druid Oak Belting Co ... †
Duckett & Co., A. W ... †
Dufur, Baggott & Co ... 24
Dufur & Co ... 24
Dunn Wire-Cut-Lug Brick Co.. 74
Dunning, W. D ... 95
Du Pont Fabrikoid Co ... ‡
Du Pont Powder Co ... 72
Duzets & Son ... 66

E

Eagle Pipe Supply Co., Inc. .. 65
East Bangor Con. Slate Co. .. *
East St. Louis Bridge Co ... 23
Economy Engineering Co ... 13
Economy Fuse & Mfg. Co ... *
Edwards, Geo. B ... 57
Edwards Mfg. Co ... *
Electric Bond & Share Co ... *
Electric Storage Battery Co ... 5
Electric Wheel Co. (Mfg.) ... 96
Elrod, Henry E ... 14
Elwell-Parker Electric Co ... †
Erdle Perforating Co ... 11
Erie Machine Shops ... 75
Erie Pump & Equipment Co ... ‡
Ervin, A. C ... 64
Essex Hotel ... 80
Eureka Fire Hose Mfg. Co ... 19
Evans & Co., Victor J ... †

F

Fairbanks, Morse Co ... 5
Fairbanks Steam Shovel Co ... *
Fernholtz Brick Mchry. Co ... 79
Ferree Co., H. G ... 14
Fidelity & Deposit Co. of Md.. 57
First Nat'l Bank of Key West.. 57
First Nat'l Bank Richmond, Va 57
Fleet-McGinley Co ... *
Florida East Coast Rwy ... 86
Flory Mfg. Co., S ... 72
Ford, Bacon & Davis ... 15
Foster Co., L. B ... 67
Foster-Creighton-Gould Co ... 15
Franks, J. E ... 67
Freadrich Belting Co ... *
Freese & Co., E. M ... 79
French Oil Mill Mchy. Co ... 78
Frick Co ... 9
Froehling & Robertson ... 14

G

Gainesville Iron Works ... *
Galena Signal Oil Co ... 10
Galion Iron Wks & Mfg Co. ... 76
Gandy Belting Co ... *
Garrett Attachment Co ... ‡
Gatlin, W. B ... 14
General Electric Co ... 6
General Malleable Co ... 80
General Vehicle Co ... ‡
Genuine Bangor Slate Co 26
Georgia Car & Loco. Co ... 67
Georgia Talc Co ... 63
Gerlach Co., Peter ... 29
Gibbes Machinery Co., Inc ... 11
Gilman, L. Harry ... 14
Glamorgan Pipe & Fdry. Co ... 29, 30
Goldens' Fdry. & Mach. Co ... 96
Grainger & Co., Inc ... 32
Graton & Knight Mfg. Co ... 10
Graves Engineering Co., Inc .. 15
Greaves, Klusman Tool Co., The ‡
Green Fuel Economizer Co ... 26
Greenspon's Sons Iron & Steel Co., Inc., Jos ... 65
Greiner & Whitman ... 14
Griffith & Wedge Co., The ... 5
Grimsley, G. P ... 14
Gruendler Patent Crusher & Pulverizer Co ... 95
Guarantee Construction Co ... 18
Gulf Refining Co ... 10
Gulf States Steel Co ... 18

H

H., care of Mfrs Record ... 64
Halsey & Co., N. W ... 57
Harris Bros. Co ... 65
Harry Bros. Co., Inc ... 73
Hartford Steam Bir. Ins. & Insp. Co ... ‡
Hartley Boiler Works ... 7
Hartranft Cement Co., Inc. Wm. G ... 16
Hayward Co., The ... 70
Hendrick Mfg Co ... 11
Hersey Mfg. Co ... 11
Highland Pines, Inn ... 80
Hill, Nicholas S. Jr ... 14
Hoffman & Co., R. C ... 64
Hogue Engineering Co ... 14
Holland Mfg. Co ... 13
Holland Machine Co ... 27
Holt Mfg. Co., Inc ... 76
Hood Brick Co., B. Mifflin ... 25
Houston, Stanwood & Gamble Co ... *
Howe Scale Co ... 66
Howze Lumber Co ... 67
Huber Grate Bar & Stoking Co. 7
Huetteman & Cramer Co ... 9
Hughes Specialty Well Drilling Co ... ‡
Hull's Sons, D. F ... 80
Hunt Co., C. W., Inc ... *
Hunt & Co., Robert W ... 14
Huther Bros. Saw Mfg. Co. Inc ... †
Hyde Bros. Steel & Rail Co ... 67
Hyde, Chas ... 67
Hydraulic-Press Brick Co. ... 26
Hyndman Roofing Co ... 25

I

Illinois Central Railroad Co ... 82
Independent Pneu. Tool Co ... *
India Alkali Works ... †
Industrial Lumber Co ... †
Institute of Industrial Research ... 15
Internat'l Creos. & Const. Co.. 79
International Filter Co 9
Internat'l Oxygen Co ... ‡
International Steam Pump Co ... 69
Interstate Construction Co ... 14

J

James Mfg. Co., D. O ... 12
Jeansville Iron Wks. Co ... ‡
Jeffrey Mfg. Co ... 76
Jenkins Bros ... 96
Johns-Manville Co., H. W ... *
Johnson, E. J ... 24
Jones, E. M ... 14
Jones & Laughlin Steel Co ... 12

K

K. C. Elevator Mfg. Co ... 13
Keeler Co., E ... 7
Keighley Metal Ceiling & Mfg. Co., S ... 24
Keilholtz, P. O ... 14
Kelly-Springfield Road Roller Co ... 75
Kelly, Thos. C ... 14
Kemp Mfg. Co., C. M ... *
Kent, Inc., Robt. Sayre ... 14
Keystone Boiler & Fdry. Co ... 25
Keystone Drill & Equipment Co. 71
Keystone Nat'l Powder Co ... 72
Keystone Pump & Well Eng. Co ... 28
Keystone Steam Well Mch. Co. 28
Kilby Frog & Switch Co ... 68
Killian Fire-proofing Brick Works ... 2
King Co., F. E ... *
Kingsport Brick Corp ... *
Kinnear Mfg. Co., The ... 32
Kirkpatrick Sand & Cement Co ... 17
Kline, Lewis T ... 29
Knight Mfg. Co ... 81
Knowles, Morris ... 14
Kosmos Portland Cement Co., Inc ... 16

L

La Belle Iron Works ... 24
Lacey, R. S. & A. B ... 67
Lackawanna Steel Co ... 19
Laclede Steel Co ... *
Laidlaw-Dunn-Gordon Co., ... 69
Lane Mfg. Co ... 81
Layne & Bowler Co ... *
Leadite Co., Inc., The ... 28
Lee Electric Co ... 5
Leffel & Co., James ... 28
Lehigh Portland Cement Co... ‡
Lehman, Chas. T ... 66
Levis & Co., Henry ... 67, 68
Levy-Morton Co ... 14
Lide, Martin J ... 14
Lidgerwood Mfg. Co ... 72
Lima Locomotive Corp ... 69
Link Belt Co ... ‡
Little, Inc., Arthur D ... †
Lodge & Shipley Mach. Tool Co. 66
Lombard Iron Works ... 7
Lone Star Culvert Co ... 54
Lookout Boiler & Mfg Co ... 7
Louisville Fire Brick Works ... *
Lowell Crayon Co ... 57
Lufkin Rule Co., The ... 78
Lunkenheimer Co., The ... 7
Luten, Daniel B ... 14
Lutz, Friedr. W ... 64
Lynchburg Foundry Co ... 30

M

McCalla, Harold ... †
McCormick Waterproof Portland Cement Co ... 16
McCrady Bros. & Cheves, Inc.. 14
McCrary Co., J. B ... 15
McKenna Bros. Brass Co ... ‡
McLanahan-Stone Mch. Co ... 79
McLundie, A. S ... 14
McMillan, Bros ... 79
Maciesary, J. H ... 67
Main Belting Co ... 10
Malonee, J. D ... 64
Manhattan Perforated Metal Co *
Mar Del Mobile Co ... 68
Marine Metal & Sup. Co ... 65
Marion Malleable Iron Wks ... 80
Marion Steam Shovel Co ... 71
Maryland Terra-Cotta Co ... 26
Mason Machine Works ... †
Massillon Iron & Steel Co ... 30
Mathews Gravity Carrier Co,.. ‡
Matthews & Tanner ... 67
Mayer, J. H ... 14
Mecklenburg Iron Works ... 18
Medart Patent Pulley Co ... ‡
Memphis Steel Const. Co ... 77
Mercantile Trust & Dep. Co ... 57
Merchants-Mechanics National Bank ... 57
Merchants & Miners Transportation Co ... 23
Merritt & Co ... 58
Metaline Co., The ... 23
Mexico Brick & Fire Clay Co.. 2
Meyers Mfg. Co., The Fred J ... 25
Mietz, A ... †
Milburn Co., Alex. N ... 77
Milburn, Heister & Co ... 14
Miller Elevator Mfg. Co., Wm. A ... *
Miller, Hiram Allen ... 14
Missouri Malleable Iron Co ... 80
Moffatt Machinery Mfg. Co ... 13
Mole, H. E ... *
Monighan Machine Co ... 71
Moore Dry Kiln Co., L ... *
Moore & Co., Edgar M ... 66
Moore & White Co., The ... 12
Moran Flexible Stm. Joint Co., Inc ... †
Morris Machine Works ... 27
Morrison, Jr., James ... 64
Morse Twist Drill & Mach. Co.. †
Mundt & Sons, Chas ... 11
Murphy's, Hotel ... 80
Murray Co ... 78
Murray Iron Works Co ... 4
Murray & Co., Inc., W. D ... 29
Myers, E. W ... 14
Myers & Bros., F. E ... 27

N

National Exchange Bank of Baltimore, Md., The ... 57
National Hoisting Engine Co.. 74
National Lumber & Creosoting Co ... 79
National Pipe Bending Co ... *
National Steel Rail Co ... 67
National Tube Co ... 28
New First National Bank ... 57
Newhall Eng. Co., Geo. M ... 67
Newman Mfg. Co ... †
N. J. Wire Cloth Co ... 24
Newport Culvert Co. Inc. ... 73
Newport Sand Bank Co., Inc. †
New River Co ... 65
New York Central Iron Works, †
New York Cont. Jewell Fil. Co. 8
Niagara Falls Metal Stamping Works ... 26
Nicholson File Co ... 33
Nickerson Mfg. Co ... 23
Norfolk & Western Rwy ... 64
Nusebaum & Co., V. M ... 66
Nuveen & Co., John ... 57

O

O'Briant, W. C ... *
Oconee Brick & Tile Co ... 26
Ohio Elevator & Machine Co.. 13
Ohio Locomotive Crane Co ... 76
Old Dominion Land Co ... 57
Oliver Mfg. Co. The Wm. J ... 68
Oregonia Bridge Co ... *
Otis Elevator Co ... ‡
Owensboro Sewer Pipe Co ... 31

P

P & F Tile Co ... 26
Pacific Flush Tank Co. ... *
Page Woven Wire Fence Co ... 23
Pan Electric Mfg. Co ... ‡
Pardee Works, C. The ... 18
Patten Mfg. Co., The ... 72
Paulson, Linkroum & Co ... *
Paxson Co., J. W ... *
Peabody, Houghteling & Co ... 57
Perkins Engr. Co., Edmund T. 14
Pew, Arthur ... 14
Pfanmueller Engineering Company ... 66
Phoenix Iron Co ... 23
Phoenix Iron Works Co ... *
Pickering Governor Co ... ‡
Piedmont Electric Co ... 5
Pittsburgh-Des Moines Steel Co ... 77
Pittsburgh Testing Laboratory, 14
Pittsburg Valve Fdy. & Constr. Co ... 28
Pomona Terra-Cotta Co ... 31
Porter Co., H. K ... 69
Portsmouth Engine Co ... 8
Portsmouth Steel Co ... 24
Potter, Alexander ... 14
Powell Co., Wm ... *
Power Equipment Co ... 65
Power & Mng. Machy. Co ... ‡
Power Specialty Co ... 7
Prentiss Tool & Supply Co ... 66
Prest-O-Lite Co ... 3
Progressive Mfg. Co ... 80
Proposal Advts ... 61, 62
Proutt, F. G ... 64
Provident Savings Bank & Trust Co ... 57

Q

Quick, Alfred M ... 14
Quickel, E. G ... 64

R

Randle Mchy. Co ... 66
Raymond Bros. Impact Pul. Co. 79
Raymond Mfg. Co., Ltd ... 96
Read Co., Howard W ... 68
Reeves Pulley Co ... 13
Remington Machine Co ... 9
Renshaw & Breece ... 14
Republic Creosoting Co ... 63
Republic Iron & Steel Co ... 21
Requarth Co., C. W ... 14, 32
Richmond Safety Gate Co ... *
Richmond Structural Steel Co. 23
Ridgway & Son Co., The ... 13
Riverside Steel Casting Co ... 80
Robbins & Myers Co., The ... ‡
Robins & Co., A. E ... 22
Robinson & Orr ... 67
Robinson & Son Co., Wm. C ... *
Rocmac Road Corp ... ‡
Roebling's Sons Co., John A ... 32
Rucker, B. Parke ... 14
Ruggles-Coles Engr. Co ... 12
Rutland Fdry. & Mach. Co ... ‡

S

Sachsenmaier & Co., Geo ... 65, 66
Saco-Lowell Shops ... 78
Safety Insulated Wire & Cable Co ... 3
Saginaw Mfg. Co ... 12
Salem Foundry & Mch. Wks.. 95
Salisbury Metal Culvert Co ... 73
Samuel, Frank ... 65
San Carlos Hotel 80
Saranac Mch. Co ... 23
Saunders' Sons, Inc., D ... 95
Savannah Eng. & Const. Co ... 15
Scaife & Sons Co., W. B ... 19
Scheinert Co., R ... 66
Scherzer Roll Lift Bridge Co.. 23
Schieren Co., Chas. A ... 10
Schofield's Iron Wks ... 77
Scholl Co., Julian ... 67
Schreiber & Sons Co., L ... 23
Schroeder Electric Co ... 5
Scofield Engineering Co ... 15
Scott Brick Co., Alex. A ... 26
Scranton Pump Co 24
Seaboard Air Line Rwy ... 82, 87
Sellers & Co., Inc., Wm ... 5
Seyfert's Sons, Inc., L. F ... 65
Shand Engineering Co ... 14
Shearer, C. E ... 14
Sherwood, E. C ... 67
Sirrine, J. E ... 15
Smith Co., S. Morgan ... 27
Smith-Courtney Co ... 95
Smith Machine Co., H. B ... 29
Smythe Co., S. R ... 15
Snead Architectural Iron Wks. 28
Snow Steam Pump Works .. ... ‡
Soule Steam Feed Works ... 78
South Atlantic Blow Pipe & Sheet Metal Co ... 31
Southern Asbestos Mfg. Co., Inc *
Southern Building Material Co. 26
Southern Clay Mfg. Co ... 75
Southern Creosoting Co., Ltd.. 79
Southern Engine & Boiler Wks 5
Southern Face Brick Exchange 26
Southern Iron & Equipment Co. 67
Southern Mchy Exchange. . 65
Southern Marble & Granite Co. 26
Southern Railway System ... 83
Southern Sewer Pipe Co ... 34
Southern Sheet & Tin Plate Co. 95
Southern States Port. Cem. Co. 17
Southern Steelcrete Co ... 32
Southern Wood Preserving Co. 79
South Side Fdry. & Mch. Wks.. *
Southwest Virginia Enterprise 81
Spiedel, J. G ... 73
Spiker, Wm. C ... 15
Sprague Canning Mchy. Co ... 29
Stacy-Bates Co ... *
Standard Brick Co ... 28
Standard Cast Iron Pipe & Fdry. Co ... 30
Standard Oil Co., Inc., (N. J.). 75
Standard Portable Saw Mill Co. 69
Standard Portland Cement Co. 16
Standard Scale & Supply Co ... 92
Standard Spiral Pipe Wks ... *
Starr Co., S. F ... *
Starrett Co., L. S ... 19
St. Charles Hotel ... 80
Stearns, John C ... 68
Stedman's Fdry. & Mch. Wks.. *
Steel Products Co ... *
Steel Protected Concrete Co ... †
Steel Rail Supply Co ... 67
Steele & Sons, J. C ... 70
sterling Wheelbarrow Co. .. . 17
Stevens' Sons & Co., H ... 90
Stevens, Harry ... 14
Stewart & Co., Paul ... 66
Stewart Heater Co., The ... 11
Stone & Webster Eng. Corp ... 35
Stothoff Bros ... 80
Stroudsburg Engine Works ... *
Struthers-Wells Co ... *
Sturtevant Co., B. F ... 31
Sweet's Steel Co ... 68

T

Tampa Mchy. Exchange ... 65
Taylor Co., N. & G ... 66
Tenn. Coal, Iron & R. R Co ... 59
Tenn. Metal Culvert Co., The.. 73
Terrell, R. A ... 64
Terry Steam Turbine Co., The 5
Thaw & Williams ... 67
Thew Automatic Shovel Co ... 12
Thomas Grate Bar Co ... 8
Thompson & Moseley, Inc ... 15
Titus, E. E ... *
Toomey, Inc., Frank ... 64
Triumph Electric Co ... 8
Troy Wagon Works Co ... ‡
Tucker & Laxton ... 15
Turner, C. A. P ... 30
Turner, Fred. W ... 64

U

Union Drawn Steel Co ... 33
Union Mining Co ... 3
Union Sulphur Co ... *
United Electric Co ... †
United Lead Co ... 33
U. S. Asphalt Refining Co 75
U. S. Cast Iron Pipe & Fdry. Co 28
U. S. Purchasing Corp ... 6
U. S. Rail Co ... 67
Universal Road Mchy. Co ... 76
Universal Machine Co ... *
Upson Nut Co ... 31

V

Valk & Murdoch Iron Wks ... 77
Valley Turnpike Co ... 67
Van Duzen Roys Co., The ... †
Van Harlingen, J. M ... 80
Victor Mfg. Co ... 36
Vilter Mfg. Co ... 6
Vincennes Bridge Co ... 29
Virginia Bridge & Iron Co ... 29
Virginia Metal & Culvert Co., Inc ... *
Virginia Ry. & Power Co ... ‡
Vitrified Wheel Co ... †
Vogt Mach. Co., Henry ... 7, 9
Voigtman & Co ... 94
Vulcan Iron Works, Chicago .. 29

W

Wagner's Sons Co., J. F ... *
Waldo, W ... 14
Walker Engineering Corp ... 14
Wall Mfg. Supply Co., P ... 17
Walsh & Weidner Boiler Co ... †
Warsaw Elevator Co ... 13
Warren Foundry & Mach. Co. 10
Watchman's Clock & Supply Co ... 87
Waterbury Co ... 73
Waterman Co., L. E ... 69
Weber & Co., F ... 96
Weimer Chain & Iron Co ... 69
Weir Frog Co ... 18
Weller Mfg. Co ... 7
Westbrook Elevator Co ... 29
Western Electric Co ... ‡
Western Gas Const. Co ... 4
Western Wheeled Scraper Co. 69
Westinghouse Machine Co ... 4
Weston & Brooker Quarry Co. 73
Wheeling Mold & Fdry. Co ... 68
White Co ... ‡
White, Gilbert C ... 14
White Companies, J. G ... 15
Whiting, Wm. S ... †
Whitinsville Spinning Ring Co. ‡
Wickes Bros ... 69
Wiley & Co ... 14
Williams Bros ... 30
Williams Co., The G. H ... ‡
Williamson Light & Ice Co ... 68
Wilson ... 69
Wilson & Co., E. H 67
Wilson Mchy. Co, H. R ... 66
Winterer, Herman L ... ‡
Witherspoon, D ... 64
Wolf Co., The ... 10
Wood & Co., R. D ... 27
Wood Iron & Steel Co., Alan ... 30
Wood, F. A ... 67
Wood's Sons Co., T. B ... 12
Worthington, Henry R ... 27
Wyckoff & Sons Co., A ... 31

Y

York Manufacturing Co ... 9
York Safe & Lock Co ... 57
Young & Selden Co ... *
Youngstown Sheet & Tube Co. 39

Z

Zelnicker Supply Co., Walter A. 67
Zimmerman Steel Co ... *

Advts. marked * appear every other week.
Advts. marked † appear in first issue of the month.
Advts. marked ‡ not in this issue.

Classified Opportunities { See Pages 60 and 61

Proposal Advertisements { See Pages 61 and 62

h. Wks.. •
terprise 57
..... 73
..... 14
r. Co.... 29
..... •
Pipe & 20
..... 80
(N. J.). 78
Mill Co. 48
ment Co. 16
y Co.... 86
rks.... •
..... 19
..... 60
..... 48
. Wks.. •
..... •
le Co... 1
..... 61
..... 79
Co. ... 17
..... 96
..... 14
..... 75
e..... 11
Corp... 15
orks... •
..... 31
..... 66
..... 69
t Co... 59
. The.. 73
..... 64
Co.. The 5
..... 67
Co.... 72
..... 8
nc..... 15
..... •
..... 66
..... 4
..... 3
..... 15
..... 18
..... 64
..... 21
..... 1
..... •
..... 1
Co.... 70
k Fdry.
..... 20
..... 1
..... 67
Co..... 74
..... •
..... 13
Wks.... 77
..... 67
he..... 1
..... 60
..... 35
..... 6
Co..... 20
ert Co.. •
Co.... 1
..... 1
..... 7, 9
..... 24
icago.. 20
..... •
rp..... 14
..... 17
Co.... 1
ch. Co. 10
Supply
..... 81
..... 73
..... 46
..... 26
o..... 69
..... 48
..... 2
..... 13
..... 1
..... 8
er Co. 65
Co..... 4
rry Co. 73
Co.... 69
..... 1
..... 14
..... 15
..... 1
ing Co. 1
..... 69
..... 14
..... 39
..... 1
Co.... 65
..... 46
..... 47
..... 65
..... 1
..... 44
..... 10
..... 37
Alan... 23
..... 67
..... 13
..... 37
..... 81
..... 9
..... 57
..... •
bs Co. 29
alter A. 67
..... •
ages
ad 62
2

Show

No

The

Very

Given

Send

ROOM

286 W.

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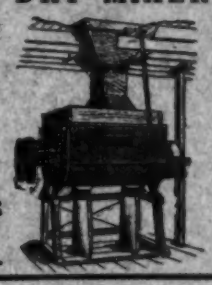
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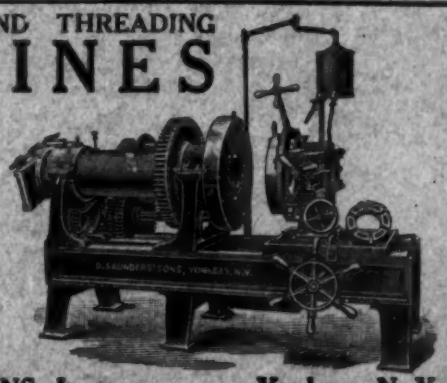
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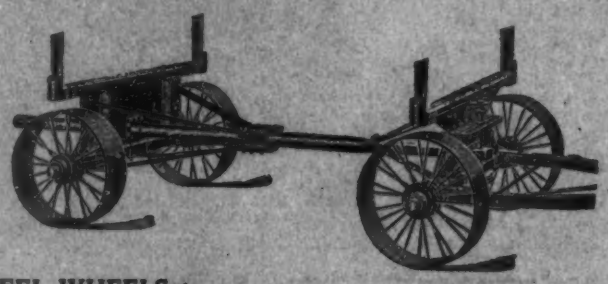
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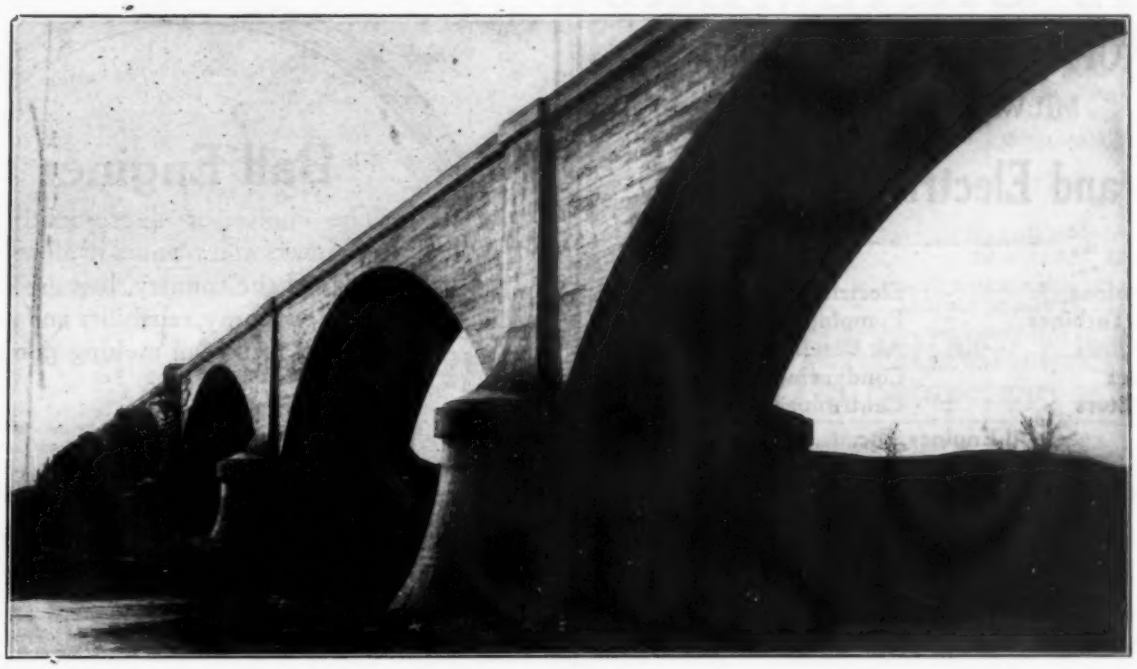
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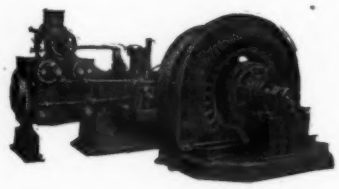
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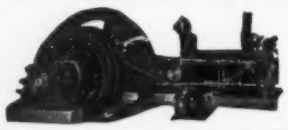
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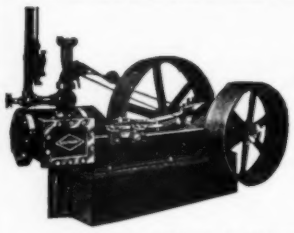
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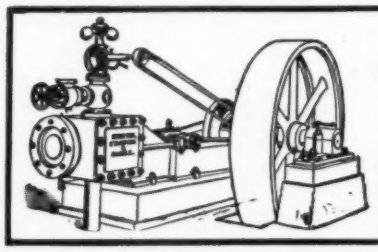


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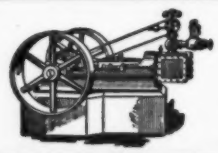
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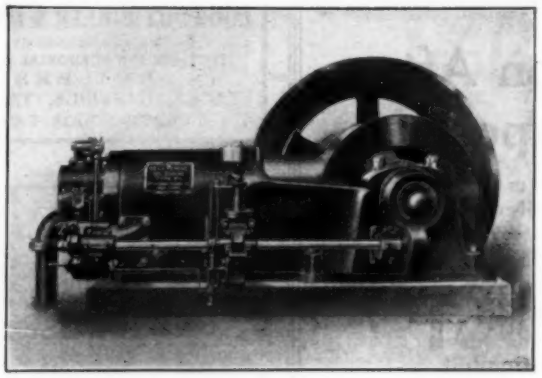
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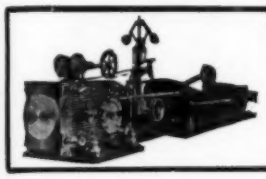
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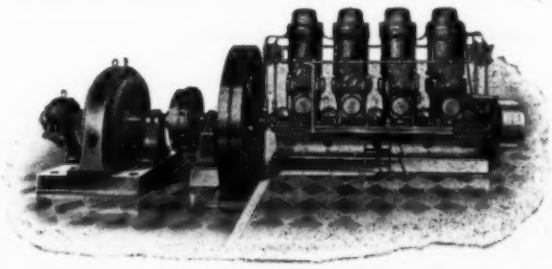
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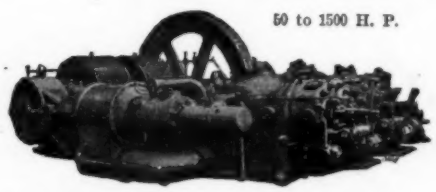
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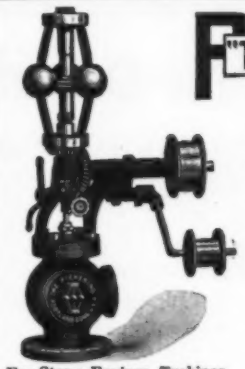
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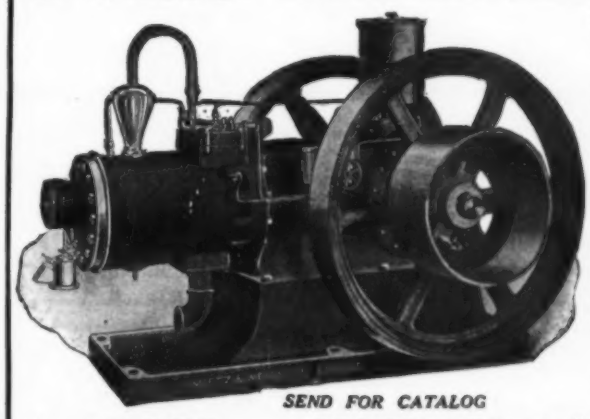
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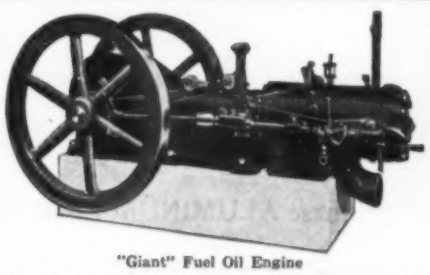
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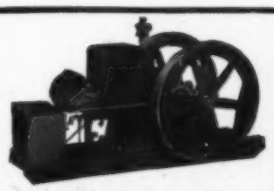
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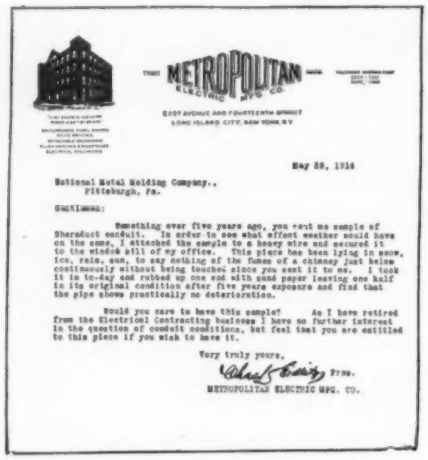
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Would you care to have this sample? As I have retired from the Electrical Contracting business I have no further interest in the question of conduit conditions, but feel that you are entitled to this piece if you wish to have it.

Very truly yours,

Chas. L. Eidlitz Pres.
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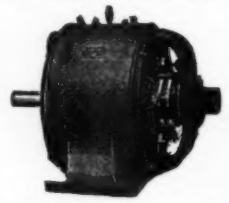
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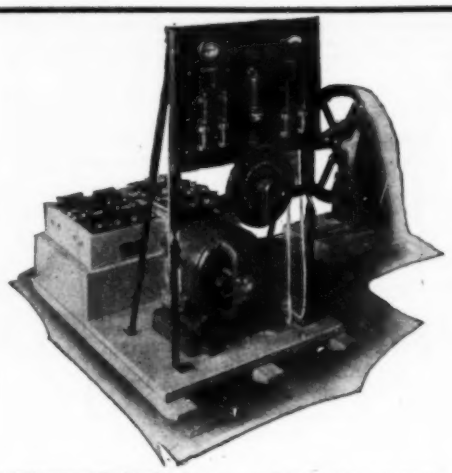
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(Signed) J. B. Butler, Supt.

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Yours truly,
KILBY FROG & SWITCH CO.,
(Signed) C. H. Krauss, Supt.

Read both of these letters word for word. They are only two examples of what THOMAS ELLIPTIC GRATE BARS are doing for others and can do for you. No matter how large or small your plant is, or if other grate bars have failed, these bars will remedy your troubles and prove wonderfully economical.



THOMAS Elliptic Grate Bars

are built to stand the severest kind of wear and tear. They are self-cleaning, will not sag or warp and make no slag clinkers. They make more steam and are a great saving in labor and fuel. Made in all sizes and GUARANTEED for one year. Let us send you some printed matter that is sure to interest you.

Write today.

Thomas Grate Bar Company

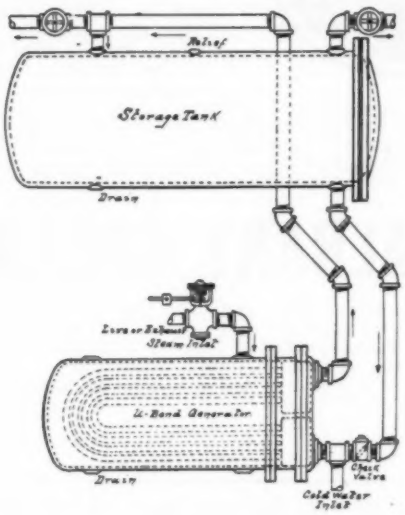
BIRMINGHAM, ALA.

Send for Our New Book of Plans

showing many arrangements of

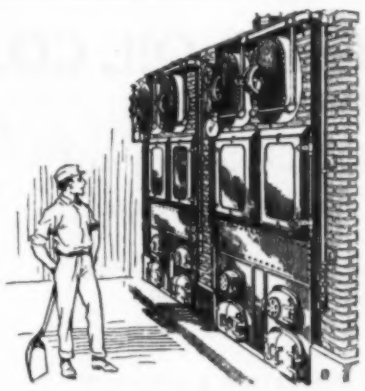
NATIONAL

Water Heaters and Storage Heaters



The National Pipe Bending Co.
97 Lloyd St., New Haven, Conn.

46-81



It's easy to keep a full head of steam

when there's not an ounce of scale in your boiler tubes. Boilers steam more quickly and use up less coal when you keep them clean with

J-M Boiler Preservative

This is a vegetable compound which, through its affinity for iron, is drawn through cracks in the scale and literally pries it away from the tubes and shell. It breaks the scale up in such a manner that it can be easily blown or washed out. It forms a thin heat-conducting film over tubes and plates which effectively prevents the formation of new scale.

J-M Boiler Preservative will not cause foaming or priming and will not carry over. Its use not only saves greatly in coal consumption, but lengthens the life of the boilers.

Write our nearest branch for "J. M. Boiler Preservative Booklet"

H. W. JOHNS-MANVILLE CO.

Manufacturers of Asbestos Roofings; Pipe Coverings; Packings; Mastic Flooring; Conduit; Stack Lining; Fireproof Paint; Fire Extinguishers; Fuses, etc.

Atlanta	Cleveland	Kansas City	Newark	Portland
Baltimore	Columbus	Los Angeles	New Orleans	St. Louis
Boston	Denver	Louisville	New York	Salt Lake City
Buffalo	Detroit	Memphis	Omaha	San Francisco
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Cincinnati	Indianapolis	Minneapolis	Pittsburgh	Toledo

THE CANADIAN H. W. JOHNS-MANVILLE CO., LIMITED.
Toronto Montreal Winnipeg Vancouver

2831



Over 700 Otis Heaters in Buffalo

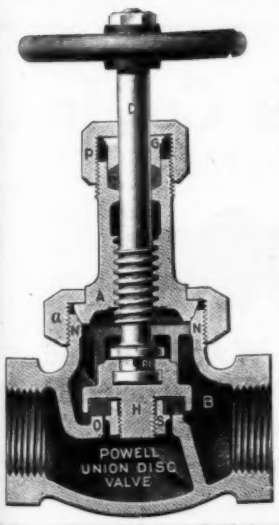
which is fine testimony for the Otis Heater. Within the last 23 years the Barber Asphalt Paving Company of New York City has installed forty heaters in their different Steam Plants. The Otis Heater saves the waste. That's the reason.

Names of other users and illustrated catalogue on request.

The Stewart Heater Co. 3 Norfolk Ave. **Buffalo, N. Y.**

Established in 1846

POWELL VALVES



Five Points of Efficiency Combined in the Powell "Union Composite Disc" Valve

¶ 1. Design of body built to outlast many Discs. Metal distributed to meet the most wear.

¶ 2. Union bevel ground joint connection between body and bonnet. Red lead or cement unnecessary to make it tight.

¶ 3. Disc holder "H" permits the use of any make of vulcanized discs, "V."

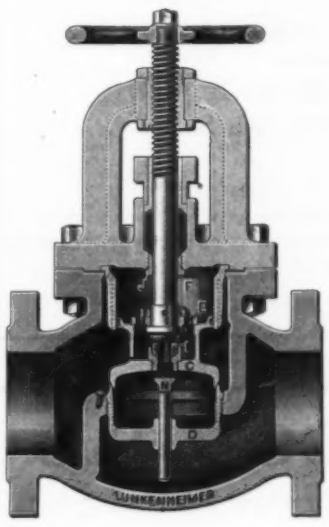
¶ 4. Acme thread on stem admitted the best for severe usage. Can be re-packed with the valve wide open.

¶ 5. All working parts made to gauge and are interchangeable.

It is the best valve on the market for
HOT-WATER OR STEAM HEATING PLANTS.

THE WM POWELL CO.
DEPENDABLE ENGINEERING SPECIALTIES
CINCINNATI, O.

LUNKENHEIMER
Balanced Throttle Valve



The ideal engine throttle. The outgrowth of extensive study and practical experience.

"Simple, Durable, Reliable"

Write for booklet giving details of construction; or obtain a copy from your local supply house.

Catalog No. 50 illustrates the entire line of **Lunkenheimer** high-grade products.

Write for a Copy

THE LUNKENHEIMER CO.
"QUALITY"

Largest Manufacturers of High Grade Engineering Specialties in the World.

CINCINNATI, OHIO, U. S. A.

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26-62E

GALENA-SIGNAL OIL CO.

FRANKLIN, PA., U. S. A.

Leading Railway Lubricating and Illuminating Oils of America

GALENA COACH, ENGINE and CAR OILS, and SIBLEY'S PERFECTION VALVE and SIGNAL OILS are standard the world over

ELECTRIC RAILWAY LUBRICATION A SPECIALTY

Guarantee Cost — Expert Service

S. A. MEGEATH, President

GULF REFINING CO.

REFINERS OF

Oklahoma and Texas

PETROLEUM

HIGH GRADE

Engine Gasoline — Painters' Naphtha
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Gas Oil — Fuel Oil

Paving and Roofing Asphalt

OUR KEROSENE AND GASOLINE IS MANUFACTURED FROM HIGH GRADE OKLAHOMA CRUDE OIL

LUBRICATING OILS

CYLINDER — ENGINE — CORDAGE
HIGH VISCOSITY — LOW COLD TEST

We make a Specialty of Heavy Oils of Asphaltum Base for Oiling Roads

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ROBSOCO OILS

Noted universally for their lubricating efficiency.

Used by the United States Navy and large concerns demanding perfect results.

Manufactured by

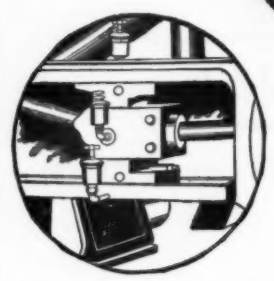
WM. C. ROBINSON & SON COMPANY

Baltimore, Md., U. S. A.

Refiners of AUTOLINE OIL for All Types of Motors

Branches

Charlotte, Savannah, New Orleans, La., Newton, and 16 Other Cities



Lubricating Slides Guides and Wrist Pins

The slides or guides are very important lubricating points on an engine where Albany Grease works out to very good advantage. Note in the illustration the Albany screw feed cups, feeding at the top and bottom. When oil is used at these points it is very apt to accumulate and, if not constantly attended to, is forced out and runs over everything. The wrist pin has always been a bearing that will work hot unless well lubricated. Here an Albany spring compression cup keeps a constant supply of lubricant on this bearing, forcing it around a bend.

ALBANY GREASE

will keep slides or guides and wrist pins working cool at all times with absolutely no waste, no mess, at the lowest possible cost and with the minimum amount of personal attention. Why don't you try Albany Grease on these important bearings and note improved conditions? We'll be glad to send a quantity of Albany Grease and an Albany cup without charge to you. Now is a good time to try Albany Grease. Why not write us today? Our book, "Friction," will also be sent.

Your Dealer Sells Albany Grease—If Not, Order Direct

ALBANY LUBRICATING CO.
ADAM COOK'S SONS, Props.
708-710 Washington St., NEW YORK
Established 1868

IF YOU WANT TO REDUCE YOUR COAL COSTS

Find out all of the advantages and economies of the Huber Hand Stoker. Write today for complete data.

HUBER GRATE BAR & STOKING CO. 1114-16 E. Monument Street BALTIMORE, MD

LUFKIN Measuring Tapes and Rules

HAVE BEEN ON THE MARKET FOR 25 YEARS.
MORE OF THEM ARE IN USE THAN ALL OTHER MAKES.
MORE OF THEM ARE USED EACH YEAR.
When YOU buy FOLLOW THE SOUND JUDGMENT OF EXPERIENCE.

CATALOG ON REQUEST

Saginaw, Mich. THE LUFKIN RULE CO. New York

Wm. Sellers & Co., Inc.

PHILADELPHIA, PA.



BOILER WASHER and FIRE EXTINGUISHER

Can be attached to Locomotive.

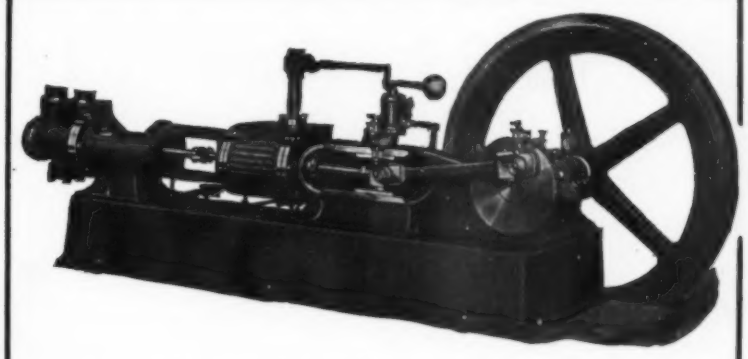
SELF-ACTING INJECTOR The only Injector for Lumber Mills and Logging Roads

YORKCO

Products have not won general approval in a day or a year, nor through any of our claims or by advertising, but through satisfactory results produced in actual service. Letters of recommendation and appreciation, which have come to us unsolicited, show that our installations are doing all, and in many cases more than we guaranteed to do. This, and our reputation for fair dealing, have combined to win favor for York products wherever used. We make the various parts needed to equip an Ice-Making or Refrigerating Plant, in our own Factory. Our men are skilled in the production of this class of apparatus—we make nothing else. Our modern Plant and Equipment is the largest in this field. Hence, your choice, if you want the best, must eventually narrow down to

YORKCO

YORK MANUFACTURING CO.
(Largest Ice Machine Manufacturers in the World)
YORK, PA.



SOME NEGATIVE QUALITIES
THE ABSORPTION
ICE MACHINE

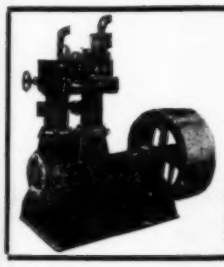
For a long time, in our advertisements, we have been touching on the positive qualities of our Absorption Ice Machine. The following are some of its negative qualities—qualities which help to put it in the lead:

No oil to bother you.
No valves to get stuck.
No cylinder-heads to burst.
No cranks or shafts to break.

There are others, which we will gladly tell you about.

Machines of any capacity - - - { Breweries, - - - Packing Houses, - Cold Storage Plants, Ice Factories, Etc. -

Henry Vogt Machine Co.
LOUISVILLE, KY.



This Ice Machine

will save you from ½ to ¾ of your ice bill, depending on the quantity of ice you buy, and not on the kind of business you do. We'll prove it if you wish.

Write for circular and prices.

Sizes from 1 to 10 tons.

Positively the most simple, the strongest and most modern type of Small Refrigerating Machines. Improved by simplicity of construction and operation right up to October, 1914.

The Portsmouth Engine Co.
PORTSMOUTH, OHIO



REMINGTON ONE-TON ICE PLANT

Many of these machines are in operation in the SOUTH in Mills and other Manufacturing Establishments to supply ICE for local requirements. They can be run from line shaft at small expense, and will soon pay first cost. Machines of any capacity for MAKING ICE or for the COOLING OF COLD STORAGE ROOMS, LIQUIDS OR DRINKING WATER. Over 20 years on the market. Illustrated Catalogue and Reference List upon request.

REMINGTON MACHINE CO. WILMINGTON, DEL.

Gravity and Pressure Filters
THE NEW YORK CONTINENTAL JEWELL FILTRATION CO.
111 Monroe St., CHICAGO 15 Broad St., NEW YORK
OWNERS OF THE NEGATIVE HEAD FILTER PATENTS
LICENSEES: { PITTSBURGH FILTER MFG. CO. NORWOOD ENGINEERING CO. ROBERTS FILTER MFG. CO.

WATER SOFTENING OR FILTRATION
FOR BOILER FEED AND ALL INDUSTRIAL USES
WM. B. SCAIFE & SONS CO. PITTSBURGH, PA.

THE H&C SAFETY

Safety First—Service Always

The business we are particularly proud of is our repeat orders—orders for additional equipment from old customers who are already operating one or more "H. & C. Safety" Compressors.

Our "come-back" business is a big business in itself and positively proves we have given a big value.

Write for an estimate on your requirements.

THE HUETTEMAN & CRAMER CO.
Refrigerating and Ice Making Machines, Detroit, Michigan

INTERNATIONAL FILTER CO.
FILTERS CHICAGO SOFTENERS

A MONEY SAVER

Are You a Coal Waster?

Answer yes, if your furnace or steam heater pipes are not covered with ASBESTOCEL, the ideal covering for all kinds of Heating Pipes. Contract work a specialty. Let us explain.

SOUTHERN ASBESTOS MFG. CO., Inc. - - RICHMOND, VA.
Successors to Southern Pipe Covering Co.
Asbestos Pipe Covering, Packing and Roofing

THE VILTER MANUFACTURING CO.
832 Clinton Street MILWAUKEE, WIS.



Ice and Refrigerating Machinery
CORLISS ENGINES

LOUISVILLE FIRE BRICK WORKS
INCORPORATED
HIGH-GRADE FIRE BRICKS
P. O. HIGHLAND PARK, KY.



Sheffield Farms Company's Plant.
Showing exterior and interior views.

What Its President Thinks of Schieren's Duxbak Waterproof Leather Belting

SHEFFIELD FARMS SLAWSON DECKER CO.,
524-528 West 57th Street,

Executive Offices. New York, Dec. 11, 1914.

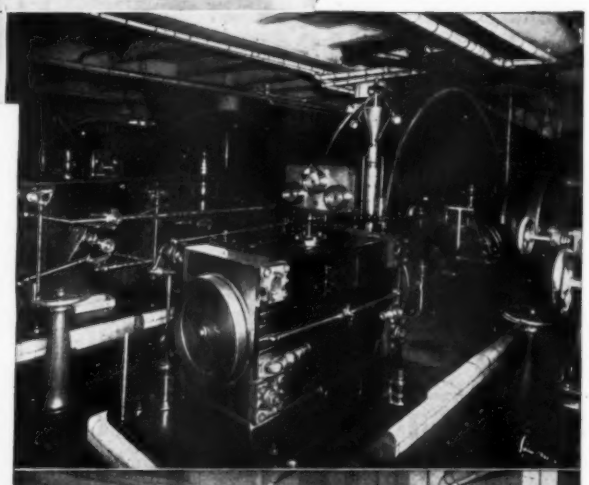
Chas. A Schieren Co.,
30-38 Ferry Street, City.

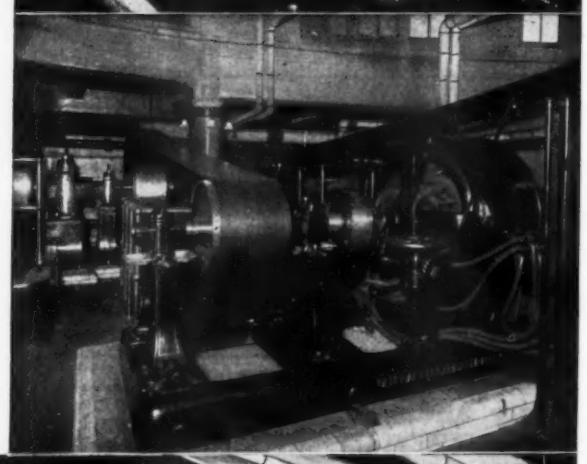
Gentlemen—The plant that our Company, the Sheffield Farms-Slawson-Decker Co., constructed in the year 1910 has been in continuous operation night and day for a period of nearly four years. At the time of its construction some scientific engineers made remarks that we were retracting instead of advancing in methods of equipment with machinery by using a belt system in preference to direct connected Compound Corliss Engines.

However, we are pleased to state that the efficiency of this plant has been recognized by some of the most eminent engineers of this country as the most efficient plant per pound of coal per horse-power at the present time.

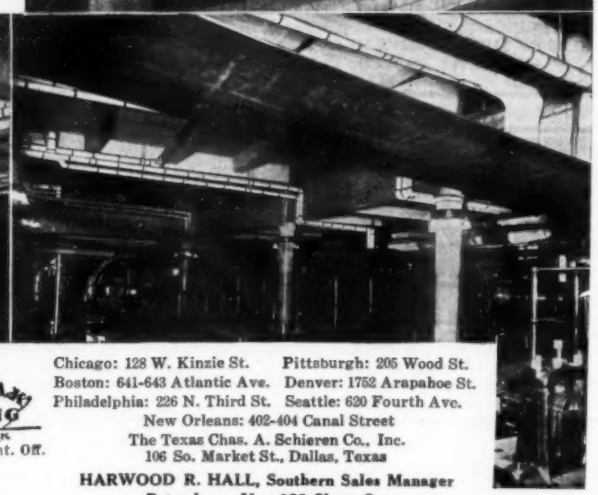
We are heating milk to a temperature of 148 degrees Fahrenheit and cooling the same to a temperature of 38 degrees in a period of eight hours with a capacity of 60,000 quarts of milk, and have produced at a continuous run 90 tons of ice and 50 tons of refrigeration every 24 hours. This was accomplished with two 100-ton refrigerating machines, and the Company takes great pleasure in cheerfully stating in behalf of the Schieren Company that the belting they have furnished us, which was nearly 500 feet of 48, 46 and 22" three-ply, amounting to over $6,000, has been an economical investment for us, and we have never had one minute's cause of delay, and from present indications we are warranted in saying that the belts are good for twenty years to come. We feel as if we should give your Company great praise and that our experience has more than proved the sincerity of our transactions.

Yours very respectfully,
SHEFFIELD FARMS SLAWSON DECKER CO.
(Signed) LOTON HORTON.









Chas. A. Schieren Company
ESTABLISHED 1866

DUXBAK BELTING
TRADE MARK
Reg. U. S. Pat. Off.

26 Ferry Street, New York, U. S. A.

Chicago: 128 W. Kinzie St. Pittsburgh: 205 Wood St.
Boston: 641-643 Atlantic Ave. Denver: 1752 Arapahoe St.
Philadelphia: 226 N. Third St. Seattle: 620 Fourth Ave.
New Orleans: 402-404 Canal Street
The Texas Chas. A. Schieren Co., Inc.
106 So. Market St., Dallas, Texas
HARWOOD R. HALL, Southern Sales Manager
Petersburg, Va., 122 Shore St.

LEVIATHAN and ANACONDA BELTING

LEVIATHAN AND ANACONDA — ELEVATING TRANSMITTING CONVEYING — BELTING

LEVIATHAN and ANACONDA deliver more belting service per dollar of cost than any other belting of any kind.

Does it make a particle of difference what a belt is made of, if it can live up to such a statement?

After all, *SERVICE* is what you buy in a belt and what you desire is the greatest possible service in proportion to cost.

LEVIATHAN and ANACONDA are stitched canvas belts, each having its special field of usefulness. There is just one reason for their being so made. *That reason is, that stitched canvas treated as LEVIATHAN and ANACONDA are treated, has proven to others, and will prove to you, a greater service-ability than any other belt of any kind—rubber, balata, canvas or leather.*

A REAL GUARANTEE

Our responsibility for each belt we manufacture extends beyond payment until the belt has earned in actual service its full cost as compared with the service of any other belt of any kind, under the same or similar conditions, barring accidents.

MAIN BELTING COMPANY

Manufacturers and Engineers

Philadelphia — New York — Chicago
Pittsburgh — Seattle — Birmingham

Main Belting Co. of Canada, Limited
Montreal — Toronto

The Bailey-Lebby Co.

MACHINERY and SUPPLIES



AGENTS FOR

REVERE RUBBER CO.

"GIANT" Seamless and Stitched **RUBBER BELT**
"RED GIANT" Sheet **PACKING**
"REVERE" Spiral and Ring **PACKING**
"REVERE" Four Ace Friction Surface **RUBBER BELT**
"REVERE" Hydraulic **PACKING**
"REVERE" SUCTION and **STEAM HOSE**

We Carry a Complete Line of **REVERE** Goods

JEFFREY Elevating and Conveying **MACHINERY**
MUNDY HOISTING ENGINES
DETROIT Leather **BELT**
COLUMBIAN Manila **ROPE**
EUREKA LATH YARN

AGENTS FOR
DISSTON SAWS AND KNIVES

CHARLESTON, S. C.



PURE OAK TANNED — **FOR** — **ACID WATER STEAM PROOF**

Leather Belting

THE DRUID OAK BELTING COMPANY
(INC.)
BALTIMORE, MD.

Service—Not Sentiment

There are many types of belting, Leather, Rubber, Gandy, and the belts resembling "Gandy" in general appearance and claimed to be "just as good but cheaper." When you buy belting you want to get the greatest service and the maximum satisfaction for the least money—the belt you want to buy is the belt from which you get the best results.

Buy Gandy and Save Money

The initial cost of the Gandy is only about one-third that of leather belting, and much less than that of rubber belting, while it does the work equally as well.
The Gandy Belt is not an experiment. It has been on the market more than thirty-five years. The splendid results it is giving under all conditions and in every field of effort warrants a careful investigation by you before *you* place your next order.
We will explain our proposition fully to you if you return the coupon below.

The Gandy Belting Company

738 W. Pratt Street, **Baltimore, Md.**
New York Office:—36 Warren St.

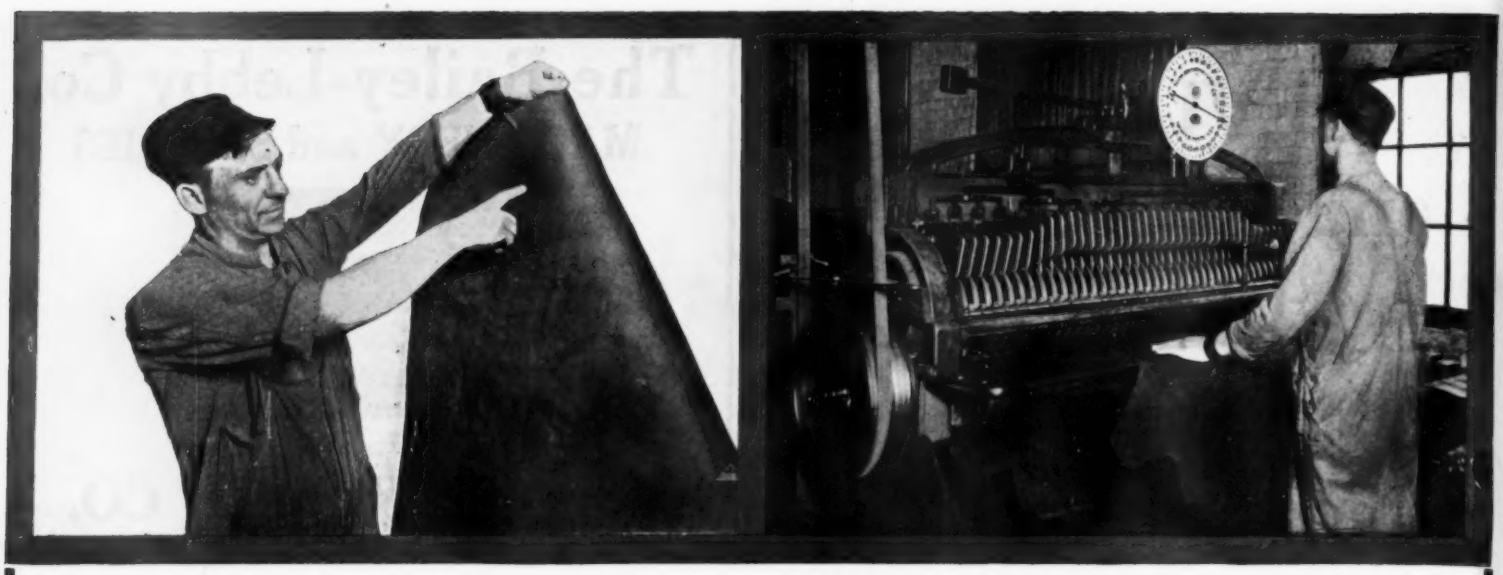
The Gandy Belting Company,
738 W. Pratt St., BALTIMORE, MD.

Gentlemen: Please send me, without obligation, a sample of Gandy Stitched Cotton Belting, and all the information I need to give it consideration.

Name .....

Address (Street) .....

City ..... State .....



1851 G & K
TRADE MARK
REG. U. S. PAT. OFF.

Lace Leather Is Never "Short"

You take no chances on G & K Lace Leather either in quality or quantity.

Every piece is measured accurately by our "Turner" measuring machine; which is operated by a "sworn" measurer, and regularly inspected and sealed by Massachusetts State Authorities. The number of square feet is stamped plainly on each side of lace leather leaving our plant—every measurement is guaranteed to be absolutely correct.

G & K Lace Leather incorporates the essential qualities of uniform thickness, great tensile strength, unusual pliability and long life under severe usage. The sides are closely trimmed and the hand cut lacings are well balanced.

All quality and measurement statements and guarantees apply to each brand of G & K Lace—the Royal Worcester, which is a mechanical lace, the strongest and most durable of its kind—the Kelton-Bruce Original Indian Tanned, the standard of tanned lace leather since its inception in 1871—the Crescent, an excellent quality of rawhide lace.

Be sure to look for the Trade Marks, they are your protection and guarantee of accurate measurement, superior quality and absolute satisfaction.

You will be interested in our Lace Leather prices and samples. May we send them?

The Graton & Knight Mfg. Co.

Oak Leather Tanners, Belt Makers and Lace Leather Mfrs.

Worcester, Mass., U. S. A.

Branches:

Atlanta	Cleveland	Kansas City	Motreal, P. Q.	Tacoma	Portland, Ore	St. Louis
Boston	Detroit	Milwaukee	New Orleans	Philadelphia	San Francisco	
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Selling Agents for Texas:
THE GRATON & KNIGHT MFG. CO., OF TEXAS
Dallas, Texas

ROYAL WORCESTER 1851 G & K TRADE MARK ALWAYS RELIABLE GUARANTEED FULL MEASURE

KELTON BRUCE ORIGINAL INDIAN TANNED MANUFACTURING COMPANY

CRESCENT

Reduce Costly Delays and Shut-Downs



These Free Books Tell You How

The Mechanical Goods Department of The Goodyear Tire & Rubber Company has published nine books—free—that deal in a scientific way with Belting, Hose, Packing, Valves and other service equipment for power plants, mills and factories.

The books are listed in the attached coupon. If you are interested in buying equipment made for specific service, or want to know how to increase the efficiency of your plant, select the book or books you want, mark the coupon as directed, and mail it today. Books will be forwarded to you immediately, without any charge or obligation to you. Selecting the exact equipment *first* and for all, is real economy. There is no guess-work—no breakdowns or loss of output through failure of inferior or wrong equipment.

Goodyear Mechanical Goods are made for long hard service. They are designed from your standpoint—to best overcome the specific difficulties encountered in your mechanical problems.

Buying equipment the Goodyear way insures you against lost time, lost labor, lost output and lost money.

Belting That Pulls and Pays All the Time

"Blue Streak" for Power

A big belt for the main drive. Stands the buffeting of the heavy idler and the quick, heavy change of load. Made of 36-ounce special weave duck—woven to specifications. The stretch is taken out in the making. Highest grade rubber friction is used. This thoroughly permeates the duck and absolutely eliminates ply separation.

"Jove" and "Klingtite"

"Jove" belting is designed especially for high-speed and small pulley conditions. Hugs tightly and will not slip. For general transmission and drives specify "Klingtite," the friction surface belt. Does not stretch. Hugs pulleys closely without sagging. The premier belt for long centers.

GOODYEAR AKRON, OHIO
Service Equipment

Ask Questions—No Obligation

Put your mechanical problems up to Goodyear. It may mean a new day in your plant efficiency. Whatever your need in mechanical goods, whether belting, hose, packing or valves, there is just the very product in the Goodyear line.

The Goodyear advisors will be glad to confer with you and tell you of the Goodyear product you are seeking, and why it best meets the requirements of your machinery.

There is no obligation in asking us questions. It means money saved to you through greater service rendered. It enables you to buy wisely the first time.

Write us today for these FREE Goodyear Service Books.

THE GOODYEAR TIRE & RUBBER COMPANY, Desk 140, AKRON, OHIO

Makers of Solid and Pneumatic Truck Tires of All Types — Makers of Goodyear Automobile Tires

(2180)

Get these FREE Books

Mechanical Goods Dept.
The Goodyear Tire & Rubber Co., Desk 140, Akron, O.

Send me without charge or obligation on my part, the following books against which I have marked X:

- ☐ Saw Mill Belting
- ☐ Balata Belting
- ☐ Flat Conveyor Belts
- ☐ Better Steam Hose
- ☐ Packing and Valves
- ☐ Paper Mill Book
- ☐ Mine Equipment
- ☐ Cement Plant Book
- ☐ Grain Elevator Book

Name .....

Concern .....

Address .....

A free book for YOU

¶ The up-to-the-minute Engineer,—Manager,—or Manufacturer—should know about money saved,—and increased satisfaction gained by the use of a Rope Drive.

¶ What do you want to know about Rope Drives,—and the solving of Transmission troubles?

¶ You'll find the answer in the "Columbian Book of Rope Transmission."

¶ Send for your FREE copy,—TODAY.

COLUMBIAN ROPE COMPANY
600-659 Genesee St. AUBURN, N. Y.
Branches: NEW YORK CHICAGO BOSTON



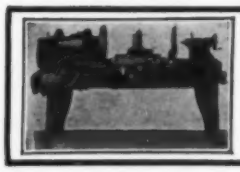
Belt Assurance.

"BALTOBELT"

¶The Twentieth Century achievement in Leather Belt Making. ¶A product of honest, old-fashioned oak tanned Leather and skilled workmanship, perfected by many years of careful labor and study. Send for booklet and prices.

BALTIMORE BELTING COMPANY,
Leather Belt Makers, Baltimore, Md., U. S. A.

THE "CHESAPEAKE" BELT PULLS
Transmits more power than any other Canvas Stitched. Fully Guaranteed.
Chesapeake Belting Company Baltimore, Md.



STANDARD ENGINE LATHES
14" to 24" swing
HIGH GRADE TOOLS
With all Modern Improvements
THE GREAVES-KLUSMAN TOOL CO., Cincinnati, Ohio, U. S. A.

MORAN MORAN MORAN MORAN

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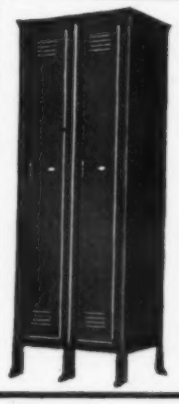
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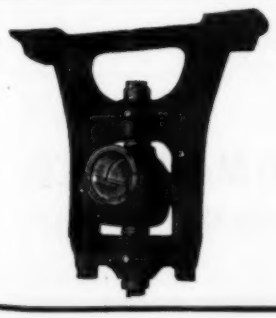
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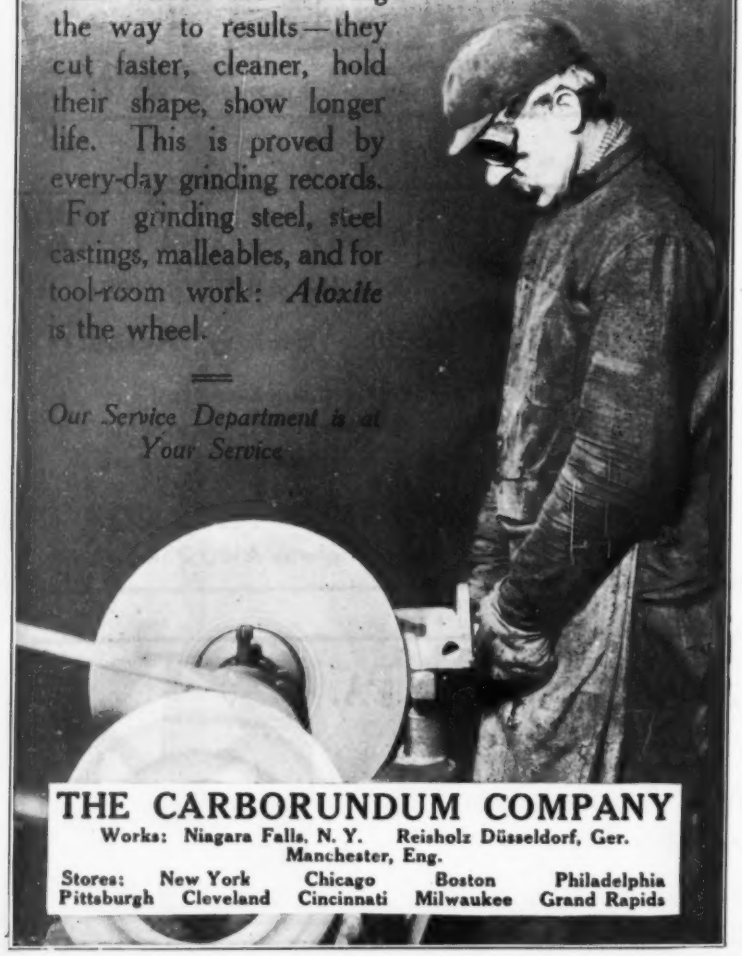


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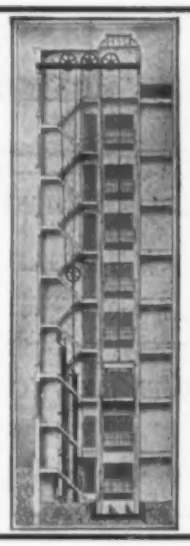
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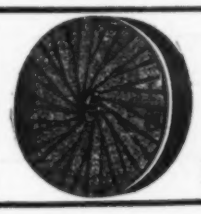
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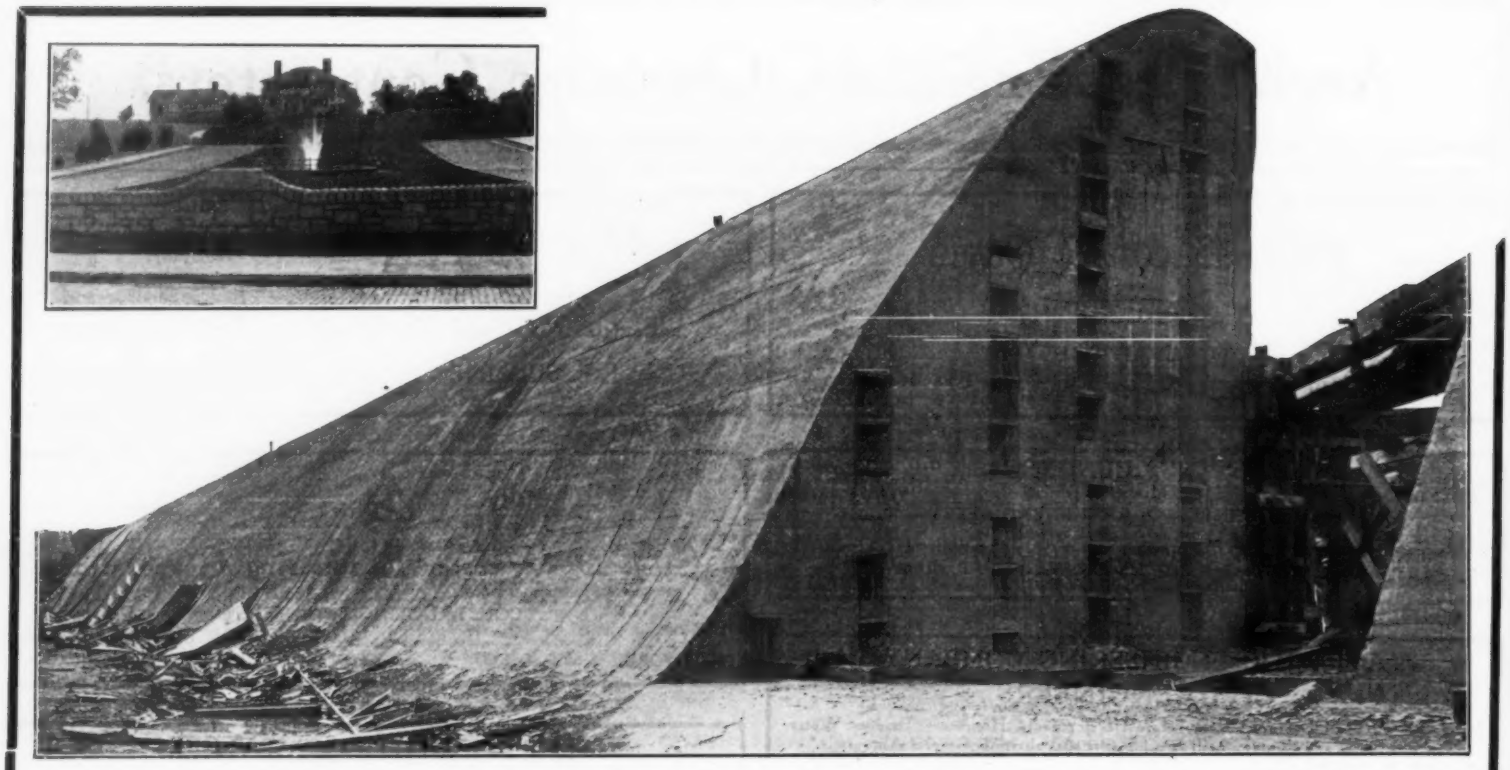
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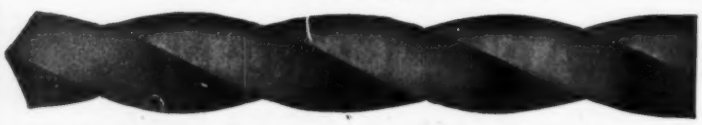
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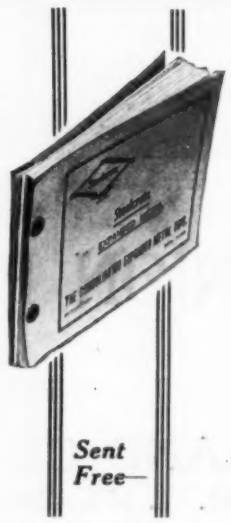
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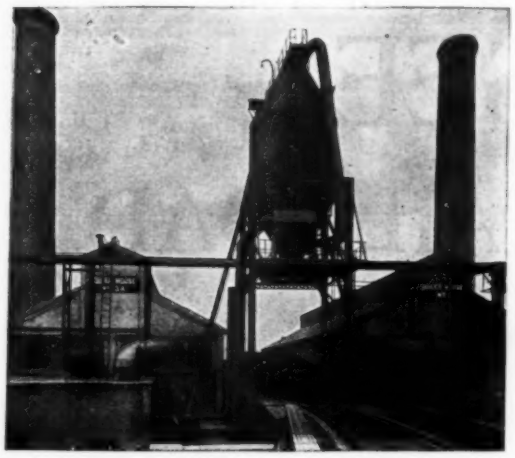
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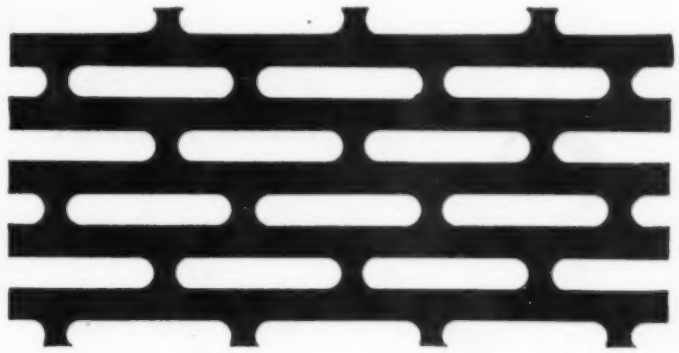
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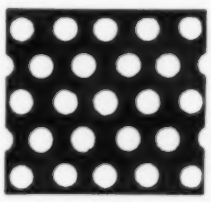
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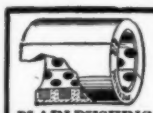
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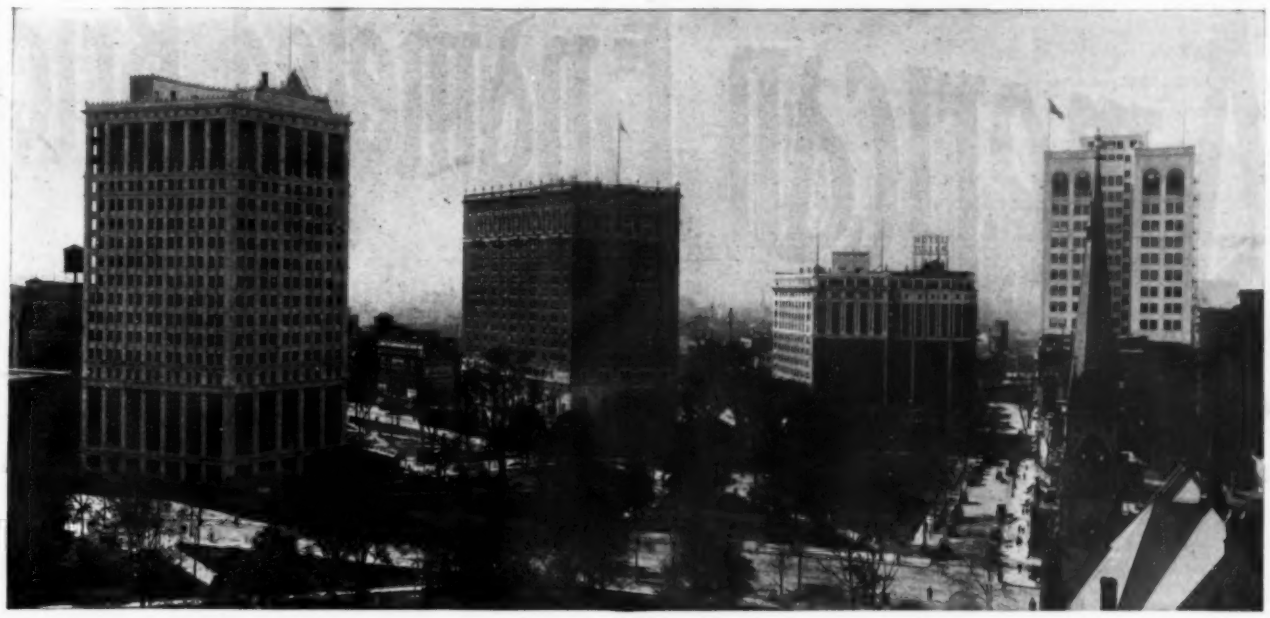
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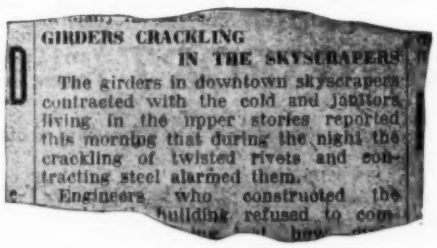
New structures of brick and steel have transformed the western sky line of Grand Circus Park in Detroit. The beautiful exteriors of these new buildings indicate the high quality of workmanship and materials that have entered into their construction. And in keeping with this standard of high quality, these new structures are finished with Berry Brothers' Varnishes—the product of the largest Varnish makers in the world.

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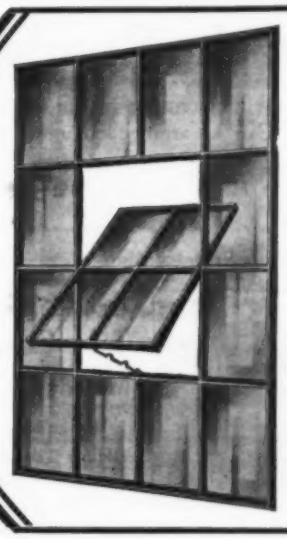
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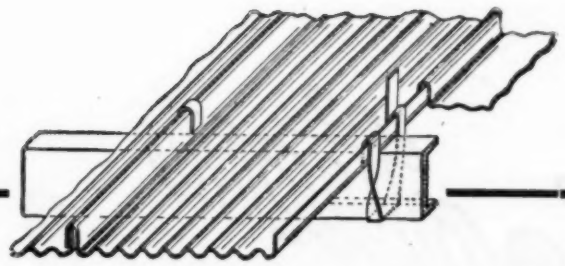
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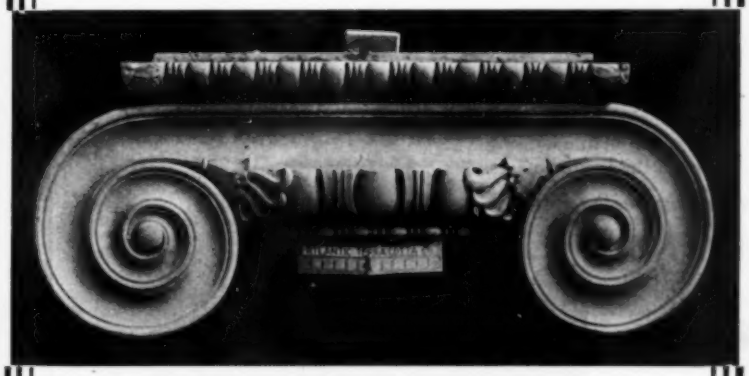
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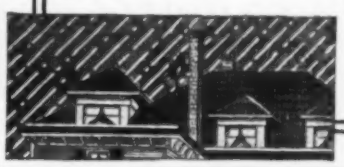
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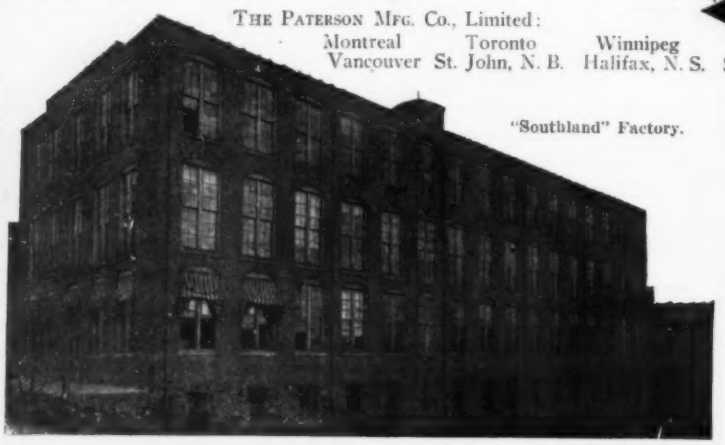
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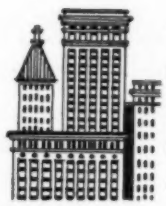
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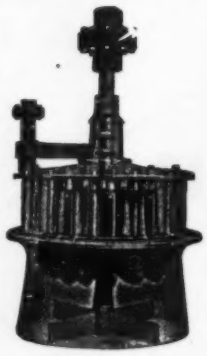
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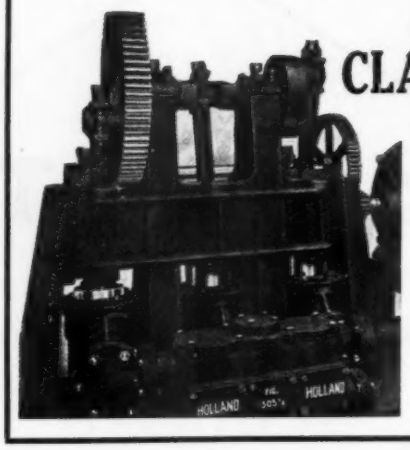
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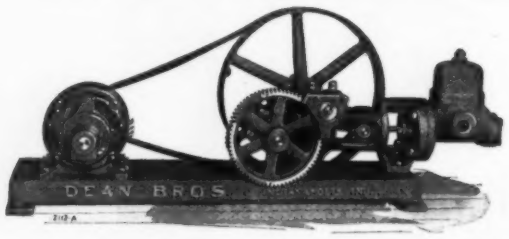


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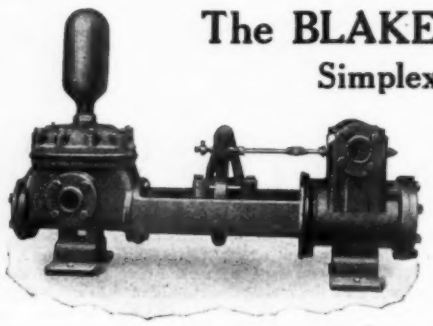
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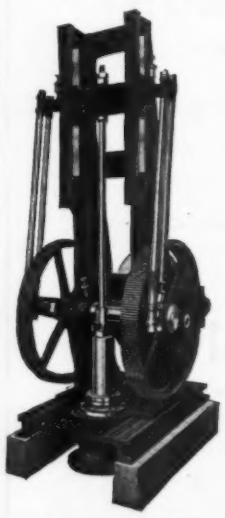
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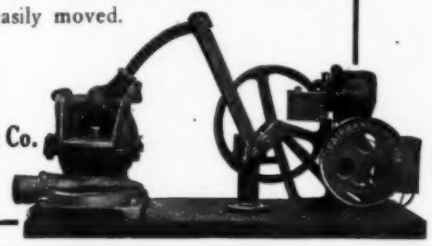
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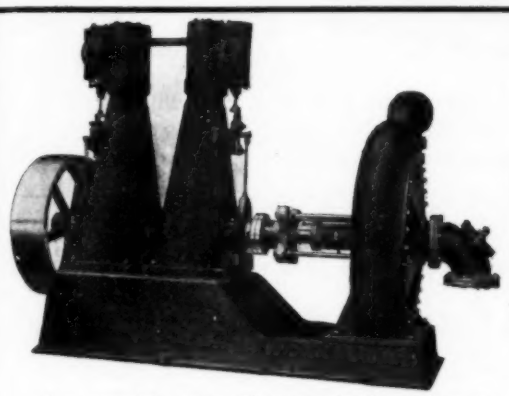
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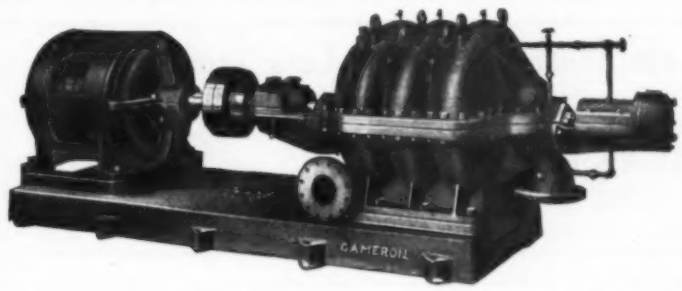
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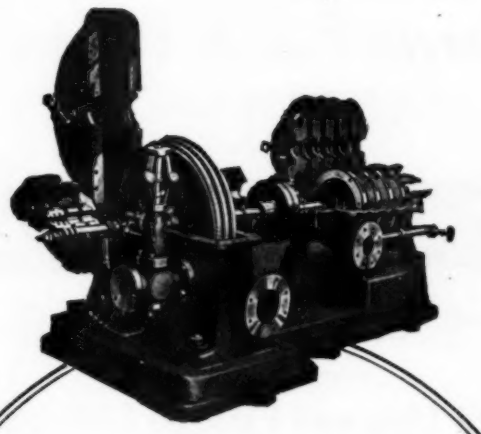
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Built upon the latest and most correct principles, they embody only those features of design and construction which will insure the highest efficiency.

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Centrifugal Pumps

Alberger Service begins with the selection by our Sales Engineer of the pumping equipment best adapted for your requirements, and continues through every stage of the design, manufacture, final inspection and test.

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SMITH TURBINES
of
90% Efficiency and Over



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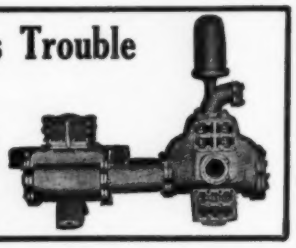
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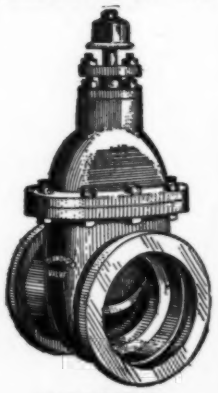
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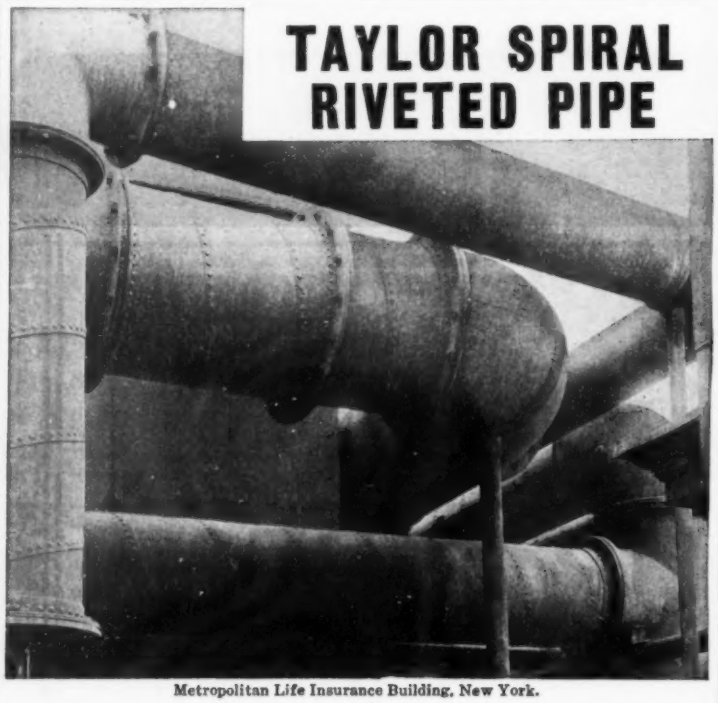
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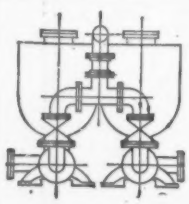
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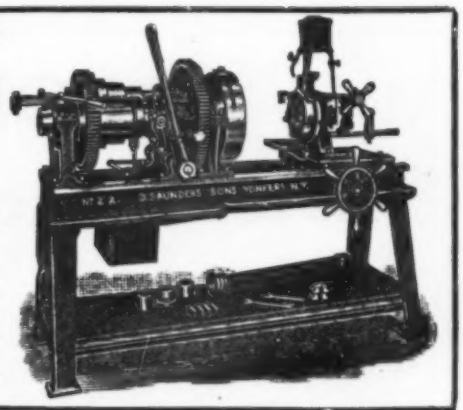
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Machines

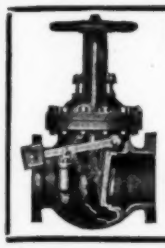
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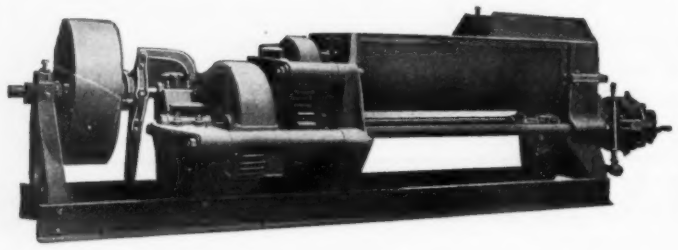
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Most Complete Saw Mill
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Making them a great labor and time saver.
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2 or 4 point
made from our
own brand of
BEST STEEL WIRE

Booklet "W" tells
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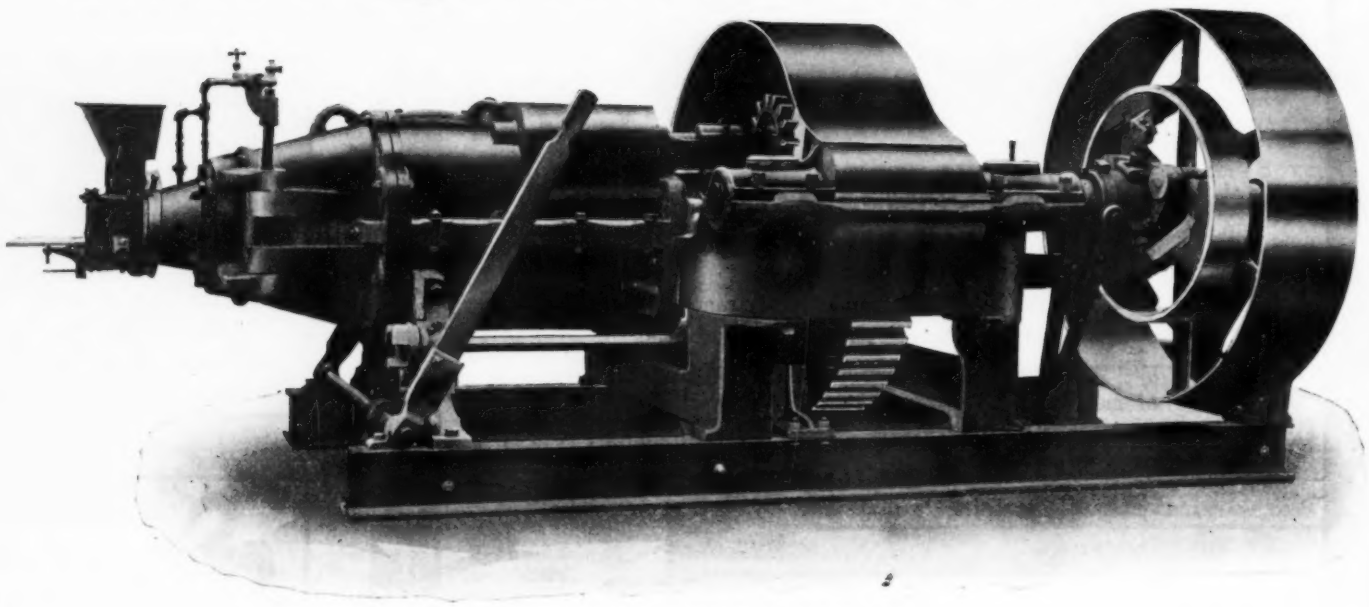
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Machinery for Handling GOLD, IRON or COTTON

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Under efficient management from Waldorf-Astoria, New York City.
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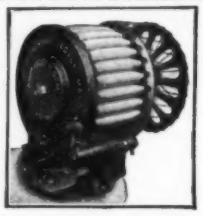
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Larger Dividends for the Mill

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Manufactured by

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SANITARY—ECONOMICAL—PERMANENT
27", 30", 36" and 42", or any other size

BLACKMER VITRIFIED SEWER PIPE

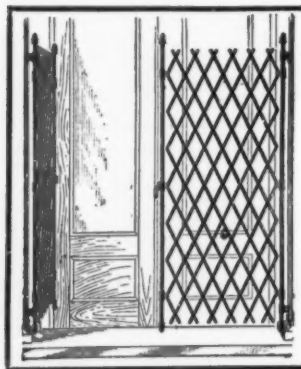
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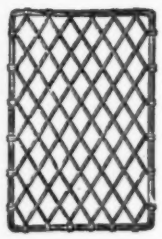
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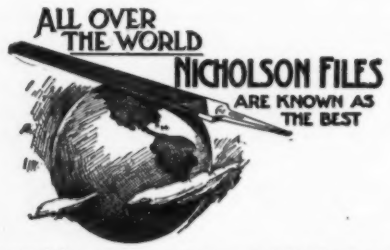
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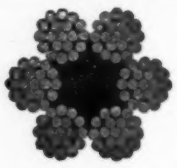


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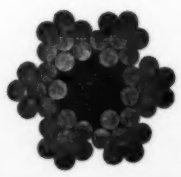
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